STEED-KISKER AND NEBRASKA CERAMICS: A NEW INTERPRETATION

by

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ABSTRACT

Ceramic variation has been used as the major criterion for taxonomically separating archaeological complexes in the Central Plains during the Middle Ceramic period (A.D.900-A.D.1500). The Steed-Kisker and Nebraska phases are among them. Even though they share similarities in the majority of their artifact assemblages, settlement and subsistence patterns, and burial practices, they are classified as two distinct groups. Ceramic typologies developed for the two phases have served to maintain this division. However, similarities between some Steed-Kisker and Nebraska phase ceramics could be evidence of a dual ceramic tradition practiced by a single group.

To explore the existence of such a tradition, a three-pronged investigation was conducted on ceramic assemblages from three sites - Cloverdale (23BN2), Majors (25NH2), and Patterson (25SY31). Results from the examinations of ceramic attributes, metric data (using principle components analysis), and design motifs indicate that the existence of a dual ceramic tradition among a single people is a possibility. The interpretation of Central Plains tradition populations as band level societies and implications regarding the usage of ceramics, the knowledge of ceramic techniques, and changes in design usage among them is addressed.

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CHAPTER ONE - INTRODUCTION

Studies of cultural products can provide clues to present and past lifeways. In archaeology, analysis of artifacts can aid us in interpreting social behavior. Artifact analysis can also provide a way of classifying and categorizing prehistoric cultures to facilitate group comparisons and studies of their interrelations. For example, ceramic studies have allowed glimpses of past cultural systems including those regarding marriage patterns (Deetz 1965), distribution systems (Chavèz 1992), and trading and exchange practices (Allen 1992), among others.

In the Central Plains, characteristics of ceramic traditions have been used to define prehistoric cultural groups. This is especially true for late prehistoric societies when populations occupying the Central Plains area had similar if not identical artifact assemblages and settlement/subsistence patterns. Subtle differences in respective ceramic assemblages were used to distinguish and segregate groups. Based on characteristics of the archaeological complexes, and later using absolute dates, specific groups were placed in various taxonomic categories developed for the area. Research, however, continues to vary as to how groups are defined, how the larger taxonomic divisions are designated, or even to which divisions individual groups should be assigned (Blakeslee and Caldwell 1979, Calabrese 1969, Krause 1969, O'Brien 1984, Roper 1995).

An example of this debate centers around the Nebraska phase and the Steed-Kisker phase. In contention are matters regarding the appropriate taxonomic term used to define each group, whether they should remain separate entities, and the wisdom of actually segregating the complexes into two distinct groups when only their ceramic inventories differ. Also at issue is the placement of the complexes in the larger classificatory schemes -- whether they represent Central Plains or Middle Mississippian groups.

The Nebraska complex has been defined as a focus, phase, aspect and variant (Lehmer and Caldwell 1966:53). This issue is still not fully resolved, but discussion for the time being is inactive. The complex was early recognized as being one of several Central Plains variants, but was also allocated to the Plains Mississippi phase (Wedel 1940:310-312, 344). When the Central Plains tradition was defined (Lehmer 1954), the Nebraska complex was assigned to it, where it has remained with little contention.

The classification of the Steed-Kisker complex has a similar but opposite history. Early referred to as a culture, it later was labeled a phase (Chapman 1952:143-

144), a nomenclature which seems to have received general acceptance. Debate ensues, however, over the placement of the Steed-Kisker phase in the larger taxonomic scheme. Wedel (1943:208) noted similarities with other cultures to the east and northeast and, although he admittedly had a limited amount of material, assigned it to the Middle Mississippi phase as outlined by Phillips (1940). The ceramics recovered from the Steed-Kisker site were recognized as being analogous to Middle Mississippi types (Wedel 1943:211-213). The rest of the artifact inventory was reminiscent of inventories from Central Plains sites.

O'Brien stressed the Mississippian affiliation, specifically with Cahokia, of the Steed-Kisker phase mentioning identical, if not as pronounced, social structures seen in burial practices and labor specialization, and similar symbolism and related rituals (O'Brien 1978a:71, 1988:28). She (O'Brien 1988:28) interpreted the Steed-Kisker phase and the complexes under the Central Plains tradition as being separate cultural entities with the Missouri River acting as a physical, if not a social, boundary. Although clearly interacting as neighbors, the respective political integrity of the groups separated them (O'Brien 1993:72).

Other scholars view the Steed-Kisker phase as belonging with other Central Plains complexes. Roper (1976, 1995) included it in her discussions of Central Plains tradition spatial dynamics and historical processes. Krause (1969), while not mentioning the Steed-Kisker phase specifically, noticed connections between Doniphan phase (of the Nebraska variant) pottery and that characteristic of Mississippian complexes to the east. Calabrese (1969), also looking at ceramics, postulated an ancestral relationship between the Steed-Kisker phase and the Doniphan phase. Specifically, minimal ceramic differences between the respective named types -- Platte Valley and McVey ware -- represented an evolution of pottery manufacture rather than the products of two distinct groups. Johnson (personal communication) similarly believes the two ceramic wares could be produced by the same group and questions the validity of separating the Steed-Kisker phase from the Nebraska complex and from the Central Plains tradition.

Certainly, the different ceramic traditions could be an indication of two separate and distinct populations coexisting in adjacent areas, as is maintained by several scholars (O'Brien 1978b, Shippee 1972, Wedel 1940). It is also possible, however, that the grit-tempered, cord-marked, globular vessels typically found in Nebraska phase sites and the shell-tempered, smoothed-surface, carinated (or angularly-shouldered) vessels

with incised decorations recovered from Steed-Kisker phase sites were produced by the same population.

The existence of dual ceramic traditions may also be indicated by the appearance of shell-tempered, smoothed-surfaced vessels, some with incised shoulder decorations (recently named Majors Opposed Diagonal by Scott 1995) recovered from some Nebraska phase sites. Their presence has been attributed to some type of Mississippian influence, directly through trade or indirectly through intermarriage or idea diffusion (Bozzoli 1958, O'Brien 1974, 1978a, Strong 1935, Wedel 1943), but could also be a manifestation of two ceramic traditions from a single group.

The phenomena of two distinct ceramic traditions being produced and used by a single cultural group is not unusual. An example can been seen in the coincident production of black-and-white and utilitarian wares in southwestern pueblos. In some modern societies, many households maintain the tradition of two sets of dinnerware -- that used for everyday and more elaborate china used for special occasions. Vessels from dual traditions may or may not have functional differences (i.e. serving versus cooking vessels in the Southwest example). Additionally, they don't always coexist in equal quantities.

Are there similarities in the ceramic assemblages associated with the Steed-Kisker and Nebraska phase complexes which are indicative of a single population with a dual ceramic tradition? Do the parallels in the ceramic assemblages between the two phases warrant a re-examination of their separate taxonomic distinctions and perhaps a synthesizing of the two complexes? If they are to remain separate and if Steed-Kisker phase artifact inventories (excluding ceramics), settlement patterns, subsistence systems, and mortuary practices are similar, if not identical, to those of the Nebraska phase, shouldn't it also be included in the Central Plains tradition?

This study is an analysis of Steed-Kisker and Nebraska phase ceramics and attempts to ascertain the soundness of separating the two complexes based on pottery characteristics. A critical examination of the ceramic assemblages may discern similarities between the defined ceramic types and may help justify a reassessment of the present classificatory designations. If, conversely, no similarities are disclosed, the current taxonomic labels will be affirmed.

As an aside, throughout the beginning portions of this thesis the archaeological complexes being examined will be referred to as distinct entities (for example, the Steed-Kisker phase or the Nebraska phase). No premature conclusions regarding their

separation is intended. This practice is being maintained for simplicity's sake -- the literature refers to the complexes this way. Further, the reader can readily understand which group and associated characteristics is being discussed.

A three-pronged examination of selected characteristics pertaining to both technology and style was conducted on ceramic assemblages from three archaeological sites with Steed-Kisker and/or Nebraska phase affiliations. Only non-invasive techniques were used for this pilot study since compositional analyses were deemed to be too destructive for this level of investigation. However, their use in the future may be warranted based on the outcome of this analysis.

Presence/absence data were collected on attributes usually used to define each ceramic tradition in order to determine if they are comprehensive enough to provide conclusive indicators for style distinctions. Additionally, the quantitative information will also indicate if any attribute intermixing is occurring in the assemblages examined. Metric data were compiled to ascertain if any patterning of technological or stylistic characteristics relating to typical vessel shapes exists or if any indication of attribute intermixing is present. Finally, vessel design motifs were examined to discern any existing patterns relating to design usage. This examination might also provide information regarding the motifs used on "Majors Opposed Diagonal" vessels and suggest the direction of origin.

Ceramic assemblages from three sites selected and were examined for this study. A majority of the data were gathered from the Cloverdale site (23BN2), located south of St. Joseph, Missouri. A contemporaneous occupation of population(s) producing and using Steed-Kisker and Nebraska phase ceramics is assumed based on the mixed contexts of recovered artifacts. Twenty storage pits were excavated which yield a variety of lithic and bone tools as well as ceramics including examples of each named ceramic type from both complexes. A site yielding both Steed-Kisker and Nebraska phase ceramic types in a contemporaneous setting is a logical starting point for this study.

Other sites in the Nebraska area with a high percentage of shell-tempered pottery were examined for additional information. Data were collected from the Majors site (25NH2) and House 3 at the Patterson site (25SY31) both of which fall under the label Nebraska phase and are spatially and may be temporally separated from the Cloverdale site. Both sites are located some distance to the north of 23BN2 and both are west of the Missouri River (where the majority of Nebraska phase sites, excluding

those from the Glenwood locality) are found. Dates for the sites investigated are found in Table 1.1. Chapter 4 provides further explanation regarding the sources of the dates.

TABLE 1.1. Radiocarbon Dates of Sites Investigated

Site	Date Range	Source
Cloverdale (23BN2)	A.D.1200 - A.D.1280	estimated
Majors (25NH2)	A.D. 977 - A.D.1277	Bozell and median A.D.1156 Ludwickson 1994:155)
Patterson (25SY31) House 3	A.D.1259 - A.D.1283	Bozell and Ludwickson (in press)

The high incidence of ceramics with shell tempering, some with incised designs, make the Majors and Patterson sites candidates for possible evidence of ceramic tradition(s) continuity. Additionally, the spatial and temporal differences between the three sites might allow us to see changes in technology and/or style through both space and time.

As stated, the ultimate objective of this study is to ascertain if the taxonomic separation of the Steed-Kisker and Nebraska peoples is valid. By answering this question, we may come a step closer to clarifying a portion of the Central Plains taxonomy and to understanding prehistoric social interactions in the area.

The concept of culture and the symbolic systems used in ceramic vessels to announce cultural affiliations is discussed in Chapter Two. Chapter Three reviews some issues of the Central Plains taxonomic nomenclature and introduces the past research, spatial and temporal distributions, and shared cultural characteristics of both the Nebraska phase and Steed-Kisker phases. The fourth chapter considers ceramic nomenclature and research styles and familiarizes the reader with the ceramic traditions of the two archaeological complexes being examined. Recent attempts to solve the problem of Mississippian influence on the Central Plains will also be reviewed. The sites and their respective ceramic assemblages are introduced in Chapter Five.
The remaining chapters focus on aspects particular to this study and the interpretation of the findings. Analytical methodology, its description and definitions, is covered in Chapter Six. Chapter Seven discusses the results of the attribute analysis, evaluation of metric data, statistical testing, and design analysis. Interpretations regarding the findings, suggestions for future research, and conclusions are offered in Chapter Eight.

CHAPTER TWO: CULTURE AND CERAMICS

The Culture Concept and Ceramics

Culture can be defined as the systems, both ideological and material, developed in a human society in order to maintain cohesion of the social unit and to ensure its survival (Binford 1962, White 1973). Certainly debate can ensue over this definition, for there are many interpretations regarding "culture" as demonstrated in Kroeber and Kluckhorn (1952). For the task at hand perhaps one of Ford's interpretations is appropriate. He stated (Ford 1949:38), "...culture may be briefly defined as a stream of ideas, that passes from individual to individual by means of symbolic action, verbal instruction, or imitation."

Artifacts are the most familiar archaeological data resulting from human behavior (Childe 1956:11). Underlying connections between culture systems and their products (artifacts) are some basic assumptions (Smith 1978:161). The first is the premise that behavior patterns of any human population are organized, predictable, and reflect structures of the cultural system. The second is that in acting out of said behavior patterns, humans modify and manipulate material objects. Examination of aspects of these objects--their manufacture and style or patterns of acquisition and trade, for example--may provide clues to the underlying cultural systems. In simple terms "A tool is a social product..." (Childe 1954:10). Binford (1962:219) elaborated on this stating, "Changes in the relative complexity of the [artifactual] component of an archaeological assemblage can be related to changes in the structure of the social system which they represent." In concurrence it has been noted of material objects, specifically pottery, "A pot is not culture--what is culture is the idea behind the artifact" (Kroeber and Kluckhorn 1952:67).

Conclusions regarding underlying social structures have been drawn by examining the spatial distribution of ceramic styles or types. Inferences include variations in marriage patterns (Deetz 1965), distribution systems (Chavèz 1992), and exchange patterns (Blinman and Wilson 1992). Such conclusions involve some sort of social communication, either overt, conceivably in the form of languages now lost, and/or covert, possibly in the form of symbols embedded in artifacts. The use and maintenance of specific signaling and symbolic systems through which inter-personal and inter-group relations are communicated is common to all human societies (White 1973:22, Wilmsen 1972:1).

The signaling systems are not static, but as reflections of the over-arching, dynamic cultural systems, mutate and change. As members of these vigorous cultural systems and as users of the signaling systems, potters can absorb influences from several sources and learn from many individuals. They become transmitters and transformers of their craft and society, not merely passive recipients (Sinopoli 1991:120-121).

The study of ceramic artifacts in archaeological contexts can help elucidate past lifeways and social interactions. Studies of ceramic use, manufacture, production, and distribution fill journals and volumes on library shelves. As material objects of human creation, ceramics can be viewed as expressions of various cultural processes. Arnold (1985:127) stated, "Because culture consists of a dynamic system made up of interacting parts, ceramics have a systemic relationship with the rest of culture." In concurrence Braun (1983:113) remarked,

> ...ceramic vessels are part of the visual environment of human behavior. As a result, their decoration and details of shape carry a communicative effect, and are constrained by the social and symbolic environment of the potter.

That ceramics as cultural items can clarify social confines and inter-relationships is emphasized by Spaulding. He commented "...the cultural items possessed by any particular social group are to a large extent a reflection of its historical relationships with other social groups..." (Spaulding 1949:3). Sinopoli (1991:69) agreed asserting, "Because, as the products of human actions, ceramic forms represent the cultural choices of people living in specific historical contexts, ceramic analysis can also inform on the structure of past social, political, or ideological structures."

Investigatory Methods

Connections between prehistoric groups have traditionally been explored by the recognition of distinct artifact types found at distances from their presumed origin (Reynolds 1995:46). Artifacts can be typed in various ways. Intuitive typology is a basic sorting of similar sherds (Sinopoli 1991:49). However, without an established method of grouping, describing, or naming such assemblages, this method may limit the effectiveness of comparative studies.

A ceramic type-variety system was proposed in 1958 by Wheat, Gifford, and Wasley in order to bring about uniformity in ceramic nomenclature (Sinopoli 1991:52). Ceramics which have certain distinct visual or tactile characteristics are grouped together as a "type" (Wheat, Gifford, and Wasley 1958:34). Additionally, "types" have

explicit temporal and spatial associations. A "variety" is related to the type, but differs from it in a few minor details (Wheat, Gifford, and Wasley 1958:35). It is more restricted both temporally and spatially. Simply put, a "variety" indicates a minor departure from the standard (Wheat, Gifford, and Wasley 1958:36).

While the type-variety method was established to facilitate the analysis of Southwestern ceramics, Phillips (1958) attempted to apply it to pottery of the eastern United States. Critical of ambiguities in the initial system, he proposed lessening them by clarifying the lineal relations between "type" and "variety", and altering the nomenclature slightly. He explained that the type includes its varieties and that the varieties are varieties of the type. His definition, in addition to comments on terminology, is thus:

> ...the type is the sum total of the established variety and all other varieties. The established variety is distinguished only by its priority and the fact that it gives its name to the type (Phillips 1958:119).

Further nomenclature refinements were suggested by Smith, Willey, and Gifford in 1960. The retention of the widely used binomial naming method (a geographic location followed by a descriptive characteristic) was encouraged for the type appellation. The variety only required the place name (Smith, Willey, and Gifford 1960:334). Gifford's 1960 appraisal of the type-variety system affirmed its significance in interpreting cultural actions, and emphasized the importance of the artisan's mental template.

An alternative method of examining pottery using the concept of "modes" was developed by Rouse. He uses the term mode to refer "...to a kind of pottery, of material, of technique, of shape, or of design..." used in the ceramic objects (Rouse 1965:91). Modes reflect "...any standard, concept, or custom which governs the behavior of the artisans of a community...and which may spread from community to community over considerable distances" (Rouse 1960:313). Rouse remarked that a ceramic style can consist of modes shared by related groups and can be used to distinguish one group from another (Rouse 1965:95-96). He further asserted that analyzing pottery into its component parts, or modes, and establishing norms for each of those parts provides a way to determine standards, customs, and beliefs of the ceramic producer (Rouse 1965:95). He stated,

> It is these standards, customs, and beliefs which constitute the culture of the community, and only by knowing them will one be able to determine whether a given potsherd belongs to the local culture, is a personal aberration, or has been brought in from another culture as the result of trade (Rouse 1965:94-95).

Both the type-variety system and the modal system are useful investigatory tools especially to facilitate comparisons. However, both systems are based on abstractions consisting of the criteria used to group artifacts (Rouse 1965:91).

Shepard (1983) has often elected to examine the technological side of pottery production. Ceramic technology can encompass varied activities: (1) the discovery of better raw materials, refining of paste composition, and development of more effective firing methods can improve of pottery serviceability; (2) more efficient methods of firing can accelerate production; (3) functional adaptations can be made to the shape and quality of the pottery; and, (4) refinement of form and finish can influence the aesthetic aspect of pottery (Shepard 1965:84). The value of technological studies to understand group interaction is emphasized by Schiffer and Skibo (1987). They remarked that the transmission of technological knowledge implies direct contact with the producer of the product (Schiffer and Skibo 1987:597). Pottery design can be transferred by visual inspection alone.

De Atley viewed one goal of technological analysis--that of social or cultural inference--as serving archaeology as an applied science (De Atley 1991:207). The importance of technological data is mainly in their "...ability to reflect economic, political, ecological, or other sociocultural contexts in which pottery was made" (De Atley 1991:207). The technological data itself is of secondary importance.

Combining the various methods of ceramic studies can strengthen interpretations of group interrelations and interactions. Zedeño (1994) used a tri-dimensional approach combining stylistic, technological, and paste analyses to determine the manufacturing loci of pottery from Chodistaas Pueblo. She affirmed the value of using ceramics to make group designations stating,

> Because ceramic manufacture is both restricted and enhanced by natural environment, technological knowledge, and stylistic behavior, ceramic materials constitute the "fingerprint" of a particular group of pottery-making people (Zedeño 1994:105).

While similarly using (ceramic) traits as defining entities, Zedeño's consideration of broader issues relating to available natural resources, technological abilities, and styles goes beyond earlier classificatory systems (McKern 1939, Willey

and Phillips 1958) for designating cultural groups and introduces socially adaptive and interactive implications.

Various aspects of past research have been synthesized to examine the question at hand in the present study -- the possible existence of a dual ceramic tradition. Modal analysis (Rouse 1965) of sherds from the groups being investigated provides a point of departure to examine the distribution of attributes in the ceramics. In addition, portions of the technological and design analysis discussed by Shepard (1983) provides a framework for examination of vessel shape and motif usage.

CHAPTER THREE - THE ARCHAEOLOGICAL COMPLEXES

Although ceramic analysis is the research vehicle, the main object of this study is the taxonomic separation of the Nebraska and Steed-Kisker complexes.[1] Both groups are present during the Middle Ceramic period (A.D.900-A.D.1500), and several parallels in settlement systems and houses, subsistence patterns, and portions of artifactual remains exist (O'Brien 1984:57, Reynolds 1995:46). Dissimilarities are also present, specifically those of taxonomic classification and ceramic traditions. The latter subject is discussed in the following chapter.

Classificatory schemes for the Central Plains archaeological complexes, including those known as Nebraska and Steed-Kisker, have been plagued with debates for decades. Discussions of the difficulties in the Central Plains in general have been undertaken by several authors (e.g. Beck 1995, Blakeslee and Caldwell 1979, Brown 1966, Krause 1969).

The archaeological complex falling under the epithet, "Nebraska" has been referred to over the years as a variant, a focus, a phase, an aspect, and a branch (Brown 1966, Krause 1969, Lehmer and Caldwell 1966:53, McKern 1939, Willey and Phillips 1958). Each classification has its own theoretical framework and placement within them is based on an interpretation of the degree to which characteristics between the Nebraska peoples and neighboring groups are shared (Spaulding 1949:3-4). The varying placement of the Nebraska culture in the classificatory systems can certainly be due to refinement based on new evidence, but is plausibly also due to the confusion regarding the taxonomy schemes themselves.

Early on, several opposing viewpoints existed. Wedel and Strong agreed that the Nebraska complex should be labeled an "aspect" using the terminology of the Midwestern Taxonomic System (Strong 1935:1-2, Wedel 1943:251-254). However, because the Nebraska aspect was delineated spatially and temporally, the use of this terminology was probably inappropriate since the MTS disregarded factors of space and time (Champe 1961:106, McKern 1939:302). Further archaeological research prompted Wedel to recognize the Nebraska culture as one of three Central Plains "variants," but he still referred to it parenthetically as an aspect and allocated it to the Plains Mississippian phase (Wedel 1940:310-312,344). Through the ensuing debate

[1] Again the reader is reminded that references to the two separate complexes are used to facilitate discussion only. No conclusions are implied by their usage.

over nomenclature, Wedel upheld the use of "aspect" for the Nebraska complex (Wedel 1959:562).

In an attempt to correctly use the terminology set forth by the MTS, Stephenson (1954) proposed labeling the Nebraska culture as a focus under the aspect "Aksarben". Champe (1961:105) strongly supported this new appellation, despite Willey and Phillips' classificatory improvements. Willey and Phillips (1958:17), in their review of the taxonomic system in general, felt that archaeological unit concepts should be based on content, distribution, and duration. Their nomenclature proposed definitive terms for spatial, archaeological, temporal, and integrative units. To them the basic unit of a "phase" was equivalent to McKern's use of focus, with added temporal implications (Willey and Phillips 1958:21).

Brown (1966:267), applying the Willey and Phillips refinements to the Central Plains tradition as defined by Lehmer and Caldwell (1966), proposed the use of Nebraska "phase." Krause (1969:91) re-examined the use of this term and recommended the Nebraska phase become a regional "variant" with two new phases, an earlier Doniphan phase found along the Missouri River in northeastern Kansas and southeastern Nebraska and a later Douglas phase north of the Platte River in eastern Nebraska. Challenging the usefulness of the new taxonomic categories, Blakeslee and Caldwell (1979) elected to continue using "phase" when considering the Nebraska complex. The dialogue seems to currently be at a standstill. To facilitate discussion in this report and in concurrence with Willey and Phillips' (1958) definition (although not necessarily their social organization level), the term Nebraska "phase" will be used.

Classification of the Steed-Kisker complex itself was not as controversial as that of the Nebraska. Initially it was labeled a culture when data from only one site was available (Chapman 1947:74-79). Chapman (1952:143-144) later referred to it as a phase, a label which seems to have received general acceptance and is used here.

Some debate does exist regarding Steed-Kisker's placement under larger cultural entities. The Steed-Kisker phase was first attributed to Middle Mississippian societies (Wedel 1943). However, problems were noted regarding the derivation (Cahokia, Atzalan or others) of this assignment (Henning 1967:184-185). Cahokian ancestry has been postulated (O'Brien 1974, 1978a), whether derived directly through migration or indirectly through diffusion. O'Brien (1988:28) and Shippee (1972:2) argue for direct migration citing strong similarities in house types, ceramics, lithics, burial patterns and rural settlement patterns. O'Brien (1993:72) perceived the integrity of the Steed-Kisker

and Central Plains complexes as evidence of political independence.

Shared socio-structural relationships between Steed-Kisker and Cahokia were striking to O'Brien, who once suggested (1978a:71) that the Steed-Kisker community represented an outlying settlement raising foodstuffs for Cahokia. Later problems with this proposal were acknowledged including the lack of similar political behavior, and difficulties with links in central Missouri between the two areas (O'Brien 1978a:71). However, O'Brien affirmed the differing natures of the complexes, even recognizing a geographical separator, the Missouri River (O'Brien 1988:28-29).

Other scholars place the Steed-Kisker phase with the Central Plains complexes. Roper (1976,1995) included it in discussions of Central Plains tradition spatial dynamics and historical processes. Johnson (personal communication) concurs with this view, noting that only difference between the Steed-Kisker phase and the Nebraska phase is the presence of "Mississippian" pottery. Based on the examination of features and artifact assemblages from Steed-Kisker and Doniphan phase sites, Calabrese (1969) posited a genetic, ancestral relationship between the two complexes. Although this theory was refuted by O'Brien (1978b), skeletal analysis (cranial measurements) suggested some affinity between Steed-Kisker and Nebraska phase peoples (Barnes 1977 as cited in Adair 1988:45, Stewart 1943).

I am in agreement with those who place Steed-Kisker within the Central Plains tradition. Overwhelming similarities with other Central Plains traditions complexes seem to demand its inclusion. The lack of specifically Mississippian characteristics (ceremonial structures, settlement systems, etc.), other than ceramics, makes its inclusion in the classifications assigned to those societies tenuous.

Relations

It was early recognized that the peoples of the Central Plains tradition were in contact with those of the Middle Mississippi region. "Aberrant" ceramic sherds in Nebraska phase assemblages were attributed to Mississippian influences, and often thought to be trade items from eastern or southern groups (Hill and Cooper 1937, Strong 1935:296, Wedel 1940:313). Wedel's acknowledgment of Mississippian affiliations with Steed-Kisker revealed a possible Central Plains presence of the group via cultural intrusion. He inferred a direct Middle Mississippian thrust up the Missouri River, presumably from Cahokia (Wedel 1940:344). Wedel noted that idea transmission was occurring as indicated by the house similarities (Wedel 1943:214), and stated, "The accumulating evidence makes it clear that the prehistoric earth-lodge

dwellers of the Central Plains were in contact with alien peoples with whom they doubtless traded and intermarried, and from whom they certainly borrowed ideas" (Wedel 1961:97).

O'Brien (1984, 1988, 1993) proposed that the Steed-Kisker peoples acted as middlemen, ideally situated between trading partners from Cahokia and the Central Plains groups. Suggested was the trade of non-perishable and perishable items with the traders living with their adoptive kinsmen (O'Brien 1993:72-77). The appearance of the shell-tempered shouldered jars with incised designs (often with the alternating, hatchered triangle motif) is linked to this co-occupation, especially in sites where this ware is in the majority such as Budenbender (Johnson 1973). O'Brien (1993:77) noted, "It is suggested that this is the concrete expression of this kinship network: Steed-Kisker women linked Central Plains men or Steed-Kisker men and their families living near their trading partners on the Plains or both."

The north-to-south movement of the Central Plains people postulated by several authors (Strong, Wedel, etc.) was recently examined by Roper (1995). Rather than a northward migration with subsequent abandonment of southern areas, a northward and westward expansion and later contraction the Central Plains tradition lifeway is proposed (Roper 1995:212-213).

History of Investigations - Nebraska Phase

The Nebraska culture was first recognized and named by Dr. Robert F. Gilder in his 1926 brochure, "The Nebraska Culture Man" (Blakeslee and Caldwell 1979:4; Strong 1935:49). The newly named culture had been extensively studied through the excavation of 27 houses by Dr. Frederick H. Sterns in the early 1900s (Blakeslee and Caldwell 1979:5; Strong 1935:250). Excavations of additional Nebraska phase sites were conducted during archaeological surveys of Nebraska in the late 1920's and during the 1930's (Hill and Cooper 1937, Strong 1935, Wedel 1985:x). Hill and Cooper's reports of 1937 and 1938 provided information on the Central Plains tradition, the characteristics of the Nebraska phase, and its known spatial extent (Bozell and Ludwickson 1994:11; Wedel 1985:xi).

Only minor research was conducted in Nebraska during the 1940's with the exception of excavations of the Walker Gilmore site (Bozell and Ludwickson 1994:11). Federal salvage work predominated archaeological investigations after World War II through the 1960's, however, since that time, investigations have been infrequent (Bozell and Ludwickson 1994:11).

Steed-Kisker Phase

The Steed-Kisker complex was first investigated by Waldo R. Wedel in 1939 and was detailed in his 1943 volume on Platte and Clay counties in Missouri. Wedel surmised that the Steed-Kisker culture aligned itself with Middle Mississippi phase sites to the east and northeast (Wedel 1943:208-209). Investigations of Steed-Kisker sites have continued over the years and various topics have been explored. Among them are: subsistence and agriculture (e.g. Adair 1988, Wood 1969); settlement patterns and houses (e.g. O'Brien 1978, Shippee 1960); mortuary practices (e.g. Barnes 1977, Finnegan 1977); and ceramic studies (e.g. O'Brien 1974, Ward 1969).

Spatial and Temporal Distribution

Nebraska phase sites are found in a continuous region encompassing eastern Nebraska, northeastern Kansas, northwestern Missouri, and southwestern Iowa (Blakeslee and Caldwell 1979:20, Strong 1935:260) (Figure 3.1). Usually bordering the Missouri River, they are found from Doniphan County, Kansas to Dakota County, Nebraska. Their extent on the eastern side of the river is unknown, but may parallel that of the western side (Billeck 1993:13). General dates (corrected) for the Nebraska phase are A.D.950-A.D.1425 (Blakeslee 1994:206). Recently calibrated dates are provided in Table 3.1.

Steed-Kisker sites are located primarily in the greater Kansas City area, from St. Joseph, Missouri east to Clay County, Missouri (O'Brien 1988:27-28; 1993:61) (Figure 3.1). The western boundary of the complex lies somewhere between Kansas City and Topeka, Kansas (O'Brien 1978a:67-68). Steed-Kisker phase dates (corrected) are generally A.D.950-A.D.1400 (Logan and Ritterbush 1994:2). Recent calibrations are listed in Table 3.1.

TABLE 3.1. Radiocarbon Dates of Steed-Kisker and Nebraska (Eighmy and LaBelle 1996:64)

Complex	95% Probability	68% Probability
Nebraska	A.D.778-A.D.1634	A.D.1068-A.D.1416
Steed-Kisker	A.D.703-A.D.1590	A.D.925-A.D.1315

Settlement, Subsistence and Non-Ceramic Artifacts

The Nebraska people were part of the Village Farming tradition of the Plains Village period (Adair 1988:37, Chapman 1980, Lehmer 1971). They were a semi-sedentary group, and constructed earthlodge dwellings. Houses were not confined to a

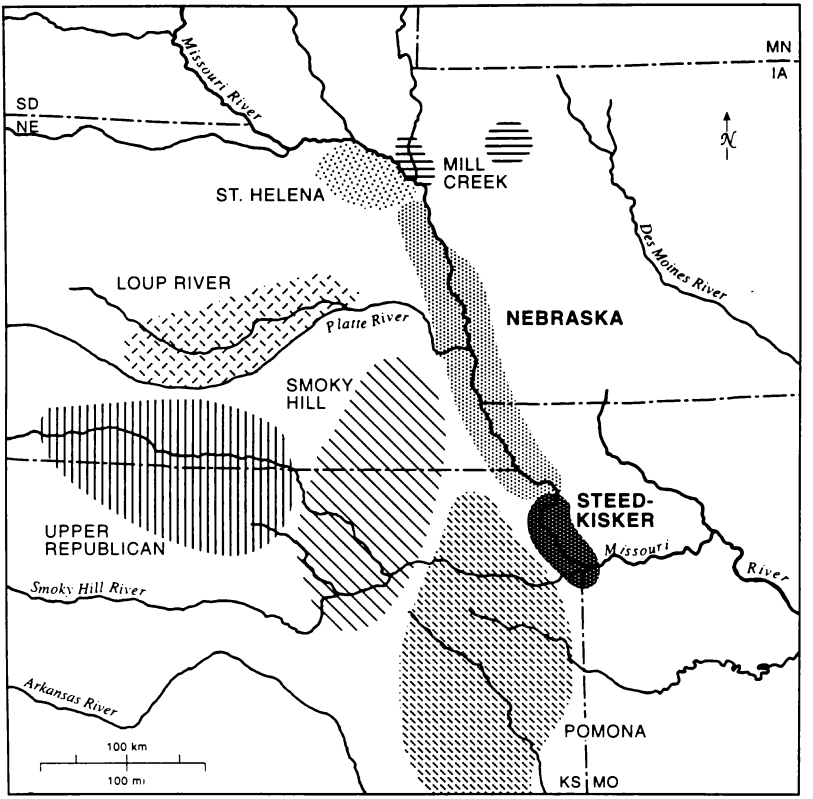


Figure 3.1. Location of Middle Ceramic Complexes in the Central Plains

village pattern but rather appeared as small hamlets or isolated farmsteads of somewhat irregular placement (Bozell and Ludwickson 1994:10). Ridge tops, bluffs, and lower terraces were all selected for house locations (Wedel 1961:95). Houses were typically semi-subterranean earth-covered lodges, square or rectangular in plan with rounded corners and included extended entrance ways, four center posts for roof supports, central hearths, and interior cache or storage pits (Morrow, 1995:7, Strong 1935:265-266, Wedel 1959:561, 1961:94).

The settlement remains of the Steed-Kisker people indicate a culture remarkably similar to those of the Central Plains tradition. Sites were often located on sloping

terraces of drainages and contained the remains of one to three houses which were not necessarily occupied simultaneously (O'Brien 1978a:67). At least two house forms are known, one similar to the Nebraska phase earthlodge (Wedel 1943:188). A second house style reminiscent of those from the American Bottom was also present. This semi-subterranean, rectangular structure probably had wall post construction (O'Brien 1993:64). Storage pits were not always directly associated with the houses (Chapman 1952:143). O'Brien sees their proximity to the "farm" house as evidence of storage sites (O'Brien 1984:57).

The subsistence strategies for both the Nebraska phase and Steed-Kisker peoples were characterized by an economy of horticulture, hunting, and gathering (Logan and Ritterbush 1994:2). Cultivated plants included maize, beans, gourds, squash, sunflower, and marshelder (Adair 1988:43-45). Wild berries, fruits, nuts, and roots were gathered, among them plants such as pokeweed, hackberry, cherry, grape, plum, blackwalnut, hazel nuts, hickory nuts, and pecans (Adair 1988:43-45, O'Brien 1978:69, Wedel 1943:66-69). Bison and deer were important game animals providing both meat and materials for tools and clothing (O'Brien 1984:57; Wedel 1943:72-73). Other game such as antelope, aquatic species, small mammals, and birds were also hunted (Wedel 1961:95-96).

Bone and antler provided raw materials for implements for farming, hunting, and pelt and hide working, and included scapula hoes, awls, needles, and fishhooks. Small, triangular side- and multiple-notched and unnotched arrow points, alternatively-beveled knives, drills, elongated end scrapers, choppers, shaft abraders, and hammer and pecking stones were among the stone tools manufactured by the prehistoric populations (Logan 1988:10-11, Morrow 1995:7, O'Brien 1984:57; 1994:218, Strong 1935:265; Wedel 1943:188-189, 1961:95-96). Bone and shell for ornaments and beads were also utilized.

For both populations, mortuary practices included extended, flexed or bundle burials, sometimes occurring in or under low mounds (Logan 1988:10, O'Brien 1993:67, Strong 1935:280, Wedel 1940:312). Occasionally grave goods were included but were fairly sparse in number. Burials were recovered near earthlodges or in areas adjacent to the farmstead sites.

CHAPTER FOUR - THE CERAMIC COMPLEXES

Nebraska Phase Ceramics

Over the years studies of Nebraska phase ceramics have included efforts to name types and varieties and to develop inferences relating to Nebraska phase chronology. In 1952, Gunnerson developed a systematic ceramic typology designating a single unnamed ware and establishing four types. The inclusion of the ceramics in a single ware was justified since 98% of the assemblage examined was "sufficiently alike" regarding temper (sand or grit), texture, hardness, color, method of manufacture, and original surface treatment (Gunnerson 1952:39). Shell-tempered vessels were considered aberrant and were not included in the typology.

The McVey type, consisting of direct or simple rims, included Plain, Rolled Lip, Pinched Lip, Pinched Fillet, and Tool Decorated varieties. Sherds with braced or thickened rims were called the Beckman types and were divided into groups based on decoration: Smooth, Tool Decorated, Pinched Tooled, Cord-roughened, and Pinched Rim. Swoboda types included the Plain, Tool Decorated, Cord Impressed, and Pinched Rims varieties and were distinguished by an S-shaped rim, a rim with an interior channeling. Bowl forms, either of the straight (non-constricted) or constricted varieties, were categorized under the Debilka type (Gunnerson 1952). Other scholars concerned with establishing chronologies, used Gunnerson's typology as a basis and, with a few modifications, developed a sequence for the Glenwood locality of the phase in western Iowa (Anderson 1961, Ives 1955).

Blakeslee and Caldwell (1979) used statistical methods to established a spatial and temporal ordering for Nebraska phase ceramics. Critical of Gunnerson's typology, they noted that while rim decoration techniques were "usually" used to determine types between the groups, inconsistencies existed within group divisions (Blakeslee and Caldwell 1979:47). They also commented on the later differences in types and the cross-cutting of earlier subdivisions (Blakeslee and Caldwell 1979:49-51). Blakeslee and Caldwell determined that "[t]he classificatory systems of Gunnerson, Ives, and Anderson cannot be correlated satisfactorily with one another, and each of their systems is internally inconsistent" (Blakeslee and Caldwell 1979:51). While recognizing the need for a new classification system for Nebraska phase ceramics which took into account the whole range of rim variation, they opted to construct a seriation of the ceramics based on decorative characteristics alone (Blakeslee and Caldwell 1979:51).

Through their reliance on trait descriptions, Blakeslee and Caldwell (1979:91) initially recognized three significant dichotomies -- direct versus thickened (including both collared and S-shaped) rims, plain versus decorated rims, and tool-versus finger-decorated rims. They found that the proportion of direct to thickened rims and the proportion of plain to decorated rims had chronological significance, but the method of applying decoration did not. Ultimately, Blakeslee and Caldwell's seriation did retain some of the basic groupings recognized by the earlier researchers -- rim forms were important as was the presence or absence of decoration.

By correlating the ceramic seriation and available radiocarbon dates, several linear trends in the Nebraska phase sites were noted. Sites with many plain, as opposed to decorated, rims are earlier. Sites with collared versus direct rims are later. A similar trend was noted for western sites (those away from the Missouri River bluffs), but due to slightly later dates, the need for a separate areal seriation was apparent (Blakeslee and Caldwell 1979:105).

Dates from the more southern Nebraska Phase sites, in what Blakeslee and Caldwell call the Brownville and Plattsmouth localities, are earlier in the sequence and were occupied about 900 radiocarbon years ago for approximately 200 years, or between A.D.1050-A.D.1250 [conversion mine] (Blakeslee and Caldwell 1979:108). The more northern areas defined as the DeSoto and Macy localities were occupied about 775 radiocarbon years ago, A.D. 1175 (Blakeslee and Caldwell 1979:108). A south to north occupation of the Missouri River valley was surmised (Blakeslee and Caldwell 1979:109). Figure 4.1 illustrates the localities referred to in this discussion.

Blakeslee and Caldwell (1979:20) chose not to covert radiocarbon years into calendric dates stating, "...all of published correction curves are significantly in error for the general period, A.D. 900 to 1500." I calculated the conversion for ease of comparison despite the stated difficulties. However, Bozell and Ludwickson (1994:143) noted that 900 RCYBP calibrates to A.D.1170 (based on Stuvier and Becker 1993 recommendations) which is late for the beginning of the Nebraska phase.

Generally Blakeslee and Caldwell's (1979) seriation can summarized as follows: southern sites are temporally early and typically contain higher proportions of direct rims which are plain; northern sites are later in time and have higher proportions of collared rims and those which are decorated. Whether the rims were tool- or finger-decorated seems to have reflected the preference of the individual potter since one method typically dominates the sherds at a given site (Blakeslee and Caldwell

1979:110). The varying proportion of the thickened rims at a site may also show potter preference (Blakeslee and Caldwell 1979:110). Shell tempering and shoulder decoration are traits found at earlier sites along the Missouri River and again later in the western locality sites (Blakeslee and Caldwell 1979:109-110). Blakeslee and Caldwell do not attribute the rectilinear motifs of the shoulder decorations to the Steed-Kisker complex.

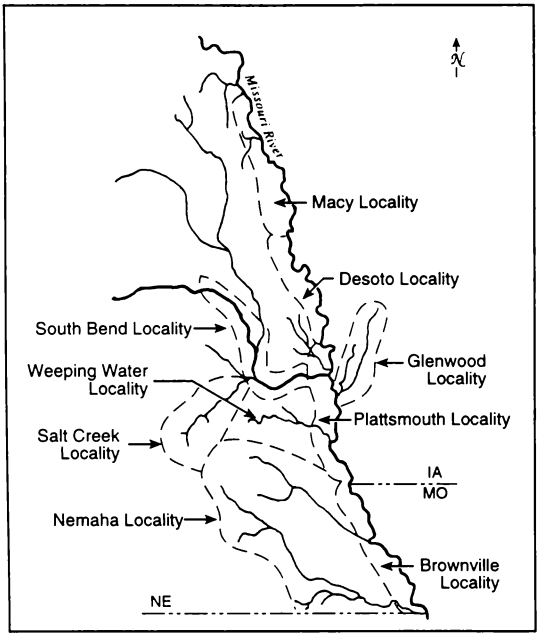


FIGURE 4.1. Nebraska Phase Localities (adapted from Blakeslee and Caldwell 1979:24)

Bozell and Ludwickson's (1994:146) findings contrast with Blakeslee and Caldwell's and suggest that some Missouri River tributary localities such as South Bend and Weeping Water were occupied earliest and the Nebraska phase expanded from there. They asserted that the earliest Nebraska phase peoples occupied a strip of land from Patterson through the Weeping Water valley and south to Peru, Nebraska. This refutes the south-to-north migration hypothesis (Blakeslee and Caldwell 1979). Bozell

and Ludwickson (1994:146) hold that the latter theory could still be correct, but the population movements would have been rapid not gradual.

Bozell and Ludwickson (1994:146) noted an additional modification to the southern origin hypothesis seen in Nebraska phase sites in northeastern Kansas and northwestern Missouri. Calibrated radiocarbon dates from two sites indicate a later occupation than mentioned Blakeslee and Caldwell whose dating was based on a single sample (1979). Site 14DP10 is dated at A.D.1215 and site 23AN56 has an average date of A.D.1284. These and other sites from the area have high percentages of decorated rims (ranging from 25.5% to 33.3%) Bozell and Ludwickson (1994:146) believe, "...these sites were occupied during southward population radiation from the Weeping Water/South Bend 'hearth'."

A brief mention of trends noticed in the western sites may be helpful for later discussion. The same linear trend of earlier, plain rims and later, decorated rims is noted in sites along the Missouri River tributaries, but Blakeslee and Caldwell (1979:105) cautioned that a separation is necessary. Western locality sites date between 700 and 525 radiocarbon years ago (A.D.1250-A.D.1425) [conversion mine], beginning when the occupation of the southern Brownville and Plattsmouth localities ends. Citing differing settlement patterns and ceramic assemblages, Blakeslee and Caldwell (1979:109-115) postulated a different origin for the people who occupied the western sites. Rims from the western sites' first occupants are largely undecorated in contrast to the highly decorated rims of the presumably departing Brownville and Plattsmouth residents. Certainly this view of the western sites is in question based on Bozell and Ludwickson's findings as discussed earlier.

Western localities tend to have higher percentages of shell tempered sherds, collared rims, and finger-decorated ceramics (Blakeslee and Caldwell 1979:116). Blakeslee and Caldwell believe the western locality groups are ceramically distinct from those earlier established in southeastern Nebraska and are reminded of the Smoky Hill phase (Blakeslee and Caldwell 1979:116). They concede that more work is necessary to establish definitive connections.

In the Glenwood locality, along a Missouri River tributary in Mills County in western Iowa, a higher percentage of collared and S-shaped rims was noted (Blakeslee and Caldwell 1979:97). More tool-decorated as opposed to finger-decorated rims were also recovered there. In addition to the two distinct populations Blakeslee and Caldwell interpret as occupying southern and western Nebraska phase sites as mentioned, they

proposed the presence of a third separate population inhabiting the Glenwood locality (Blakeslee and Caldwell 1979:115).

Billeck (1993:269) conducted a seriation of Glenwood locality sites and found the northern sites had more direct rims and the southern more collared rims. This is in contrast to Blakeslee and Caldwell's (1979) findings for sites west of the Missouri River. The variation in the Glenwood locality appears to be stylistically motivated, and was geographically, not temporally, sensitive (Billeck 1993:252,270). A trend over time toward greater rim heights was noticed (Billeck 1993:255).

Three subphases -- early, middle, and late were developed for the Glenwood locality (Billeck 1993:270). The Nebraska phase occupation of the area began slightly after and ceased prior to the end of the phase. General dates are approximately 900-950RYBP to 650-750RYPB (or circa 800B.P.-660B.P., corrected) (Billeck 1993:270).

Billeck (1993:249) mentioned the presence of shell-tempered ceramics in sites in the Glenwood locality, noting they fall in the early and middle subphases. Most of the incised designs can be linked with both Oneota and Steed-Kisker. The alternating, hatchered-triangle design motif, also present in the locality, which also occurs at Correctionville and the Dixon Oneota (Billeck 1993:249).

Nebraska phase ceramics are generally described as having a smooth, well-mixed paste with a flaky or friable texture (Blakeslee and Caldwell 1979:52; Strong 1935:251). Sand or crushed granite, in varying proportions, were used as tempering agents. The colors of the pottery are typically a reddish brown, but can range from orange to almost gray to black (Strong 1935: 251). Globular jars with constricted necks and recurved rims predominate the repertoire of vessel shapes, although bowl forms with straight or incurved sides and short, tapered-neck bottles are also sometimes found (Blakeslee and Caldwell 1979:53; Strong 1935:252-253). Vessel sizes range from fairly large with a six gallon capacity to miniature, the size of a quarter dollar. The most common size is five to seven inches with a capacity of less than one gallon (Strong 1935:252-253). Occasionally handles in the form of straps or loops, lugs, tabs, and nodes are found (Blakeslee and Caldwell 1979:54, Wedel 1959: 561).

The apparent manufacturing method of Nebraska phase ceramics is by lump modeling with final shaping done using a paddle and anvil or stone (Strong 1935:252-253). The surface is either plain or cord-roughened with a cord-wrapped paddle (Wedel 1961:96). Often the cord-markings are almost entirely obliterated by subsequent smoothing of the surface. Rims are either simple or direct, or slightly thickened

forming a fillet or collar (Wedel 1959:561). Both types of rims can be plain or decorated with modeling, incisions, or impressions. It is on the rims where the majority of the decoration is found. Occasionally incised body decoration does occur, most typically on shell-tempered pieces (Wedel 1959:561).

Varying amounts of shell-tempered pottery have been recovered from Nebraska phase sites. Blakeslee and Caldwell (1979:57) noted the "...strong tendency for sites yielding fairly large amounts of the shell tempered ware to be located in the southern portion of the Nebraska phase range and at the early end of the sequence." These ceramics are typically coarse to fine in texture. Colors range from light gray to buff to dark brown and black (Blakeslee and Caldwell 1979:58-59). Vessel form is similar to the grit-tempered pottery with the exclusion of the bottle form. The size of the vessels is also similar but miniature vessels are uncommon (Blakeslee and Caldwell 1979:59).

The manufacturing method of the shell-tempered ceramics was probably lump modeling with thinning and shaping done with a paddle and anvil (Blakeslee and Caldwell 1979:59). Surfaces were more often smoothed or polished, cord-roughening is less prevalent. Direct and collared rims are present but S-shaped rims are unknown. Handles, lugs and tabs, similar to those on the grit-tempered pottery are found. Decoration on the shell-tempered vessels is rarely found on the rims. It appears on a large percentage of the vessels and is characteristically a decoration made of incisions placed on the vessel shoulders.

The decorations are typically in the form of alternating, hatchered triangles, and vessels with this trait have been the subject of recent study. Scott (1995) proposed a new ceramic type based on this ware, the Majors Opposed Diagonal, and postulated Steed-Kisker origins. Billeck (1993:249), excluding possible Oneota origins as well, believes the design origins may lie elsewhere. Beck (1995), studying Smoky Hill sites where these vessels also occur, attempted to confirm their presence as tradeware through petrographic analysis of the paste. Although the results were inconclusive, her analysis offered a new method of studying the problem.

Steed-Kisker Ceramics

Steed-Kisker ceramics have often been used to establish relationships with Mississippian centers to the east and south. Wedel recognized the similarity of the ceramics, as well as some other Steed-Kisker characteristics, to other Mississippian centers noting that virtually every element present in Steed-Kisker ceramics occurs at Azatlan, Cahokia, Kingston, and sites in Illinois (Wedel 1943:211). These strong

ceramic ties to Mississippian centers led him to hypothesize a migration out of Cahokia to areas toward the west (Wedel 1943: 211-212).

Ward, in his 1969 thesis, compared decorative elements of Cahokia, Steed-Kisker, and 23BN2 to establish the interrelationships between the three sites. In contrast to the migration hypothesis, the stylistic similarities, or lack thereof, did not indicate such a movement (Ward 1969:38-39). Ward proposed that the relatively few stylistic analogies were the result of idea diffusion (Ward 1969:38-39).

Calabrese (1969) established a ceramic type, Platte Valley Plain, for shell-tempered sherds from Steed-Kisker phase sites which exhibited no decoration. Those sherds which had incised designs were referred to as Steed-Kisker Incised by Chapman (1980:159, 297). Cahokian analogies of the latter pottery were seen in Ramey Incised vessels (Henning 1970:158, O'Brien 1978a).

Steed-Kisker pottery is a fairly compact ware with a smooth, fine textured paste and is flaky at fresh breaks (Wedel 1943:74). The tempering material is predominately shell and vessel colors range from gray to brown to orange-buff (Wedel 1943:189). Hardness levels from two to four are present, although few pieces exceed three on the Mohs' scale (Wedel 1943:74). Vessels usually have hemispherical underbodies which round to an angular shoulder with a flattish or occasionally rounding upperbody, and have constricted necks with low vertical or flaring rims (Chapman 1952:143). Lips and rims are never decorated (Wedel 1943:76-77). Vessel sizes range from miniature to fairly large with body diameters of 40-45 cm and heights of 30 cm, although slightly smaller vessels (25-30 cm in diameter and 15-20 cm high) are more prevalent. Loop handles, usually set on opposite sides of the vessel mouth, are fairly common.

Small vertical-walled bowls with flattened bases have also been found, but are less popular than the shouldered jars. Modeled bird or animal effigy heads and opposing tab-like "tails" are sometimes perched on the rims of this type of bowl. Bowls with constricted orifices are also known (Wedel 1943:95).

Manufacturing techniques of Steed-Kisker ceramics are lump modeling sometimes combined with coiling. The surface treatment of the vessels is more often smoothed but can also be polished (Wedel 1943:74). While the low rims of the pottery are never decorated, frequently the bodies of the jars are (Wedel 1943:77). Decoration typically is applied to the flattened upperbody, between the shoulder and the rim. Curvilinear and/or rectilinear motifs are incised into the clay prior to firing. These incisions may be made at any time once the vessel has been formed, while it is still fairly

wet up to the leather-hard stage. Various decorative motifs were used -- nested chevrons and arches, series of parallel lines, undulating lines, and sunburst motifs (O'Brien 1984:119; Wedel 1943:77).

O'Brien (1974, 1978, 1993) developed a sequence of designs and their usage at Steed-Kisker sites through time, and observed connections between Steed-Kisker designs and those at Cahokia (Table 4.1) (O'Brien 1993:66-67). She also noticed that in the Steed-Kisker sequence, the earlier designs are more curvilinear and the later become more rectilinear. The sunburst motif and the cross are dominant thematic emblems in Steed-Kisker vessels (O'Brien 1993:65). O'Brien (1993:65) noted that the cross, or four-part pattern repetition, was the "...only spatial arrangement of design on shouldered jars..."

TABLE 4.1. Steed-Kisker and Cahokia Design Connections

S-K Phase	Cahokia Period	Associated Dates
I	Powell Track, IV - or - Late Stirling	A.D.1000-A.D.1050
II	" " " "	A.D.1050-A.D.1150
III	Morehead Phase	A.D.1150-A.D.1250
IV	" "	" "

Based on design distribution, O'Brien (1978a:74) found no evidence of the proposed north to south movement of Steed-Kisker peoples. Late designs were found in both the northern and southern sites. This prompted her to surmise a west to east and back movement, with the Steed-Kisker population occupying areas adjacent to the Missouri River first, moving to the interior uplands and then back to the river. Unfortunately, due to the paucity of supporting information in O'Brien's published reports, it is impossible to reconstruct her seriation and therefore offer comment as to its validity.

O'Brien has commented on Steed-Kisker designs and their possible connection with the Southern Ceremonial complex of the eastern United States (O'Brien 1994:58). She says elements used -- nested arcs, chevrons, ladders and the "weeping-eye" -- have analogies in the symbolic system of that complex (O'Brien 1993:65), but may not necessarily represent the same political ideology (O'Brien 1984:58). According to McNerney (1971), however, the use of these symbols in the Steed-Kisker complex seems to be out of sequence (i.e. earlier than) with their use at Cahokia.

Pauketat and Emerson (1991) see an elite ideology embedded in the Ramey

Incised pottery of Cahokia. Each decorated pot has an underlying theme of a center with a quadripartite distribution of adjunct design elements -- creating the cross-in-circle scheme which may have symbolized an ordered cosmos (Pauketat and Emerson 1991:929-931). Viewed from above, with the circular orifice and the encircling decorative elements visible, a sun/fire symbolism would be apparent (Pauketat and Emerson 1991:932). Links between the upper and under worlds are seen in the three-dimensional nature of the pot. In essence, the user, reaching into the pot (and thus below the square-cross motif), would be dipping into the cosmological order. Pauketat and Emerson (1991:933-934) believe that seeing the "pot as cosmos" especially in utilitarian activities "...may have reminded commoners of the relationship between earth and sky, Under and Upper Worlds, female and male, commoner and elite." Decorations on pottery communicated the ideology of the ruling polity and served to legitimate the chiefly authority of the elite in the Cahokian world (Pauketat and Emerson 1991:935). While this concept is intriguing, at present we cannot establish similar roles for designs on Steed-Kisker pottery (assuming Cahokian origins) (O'Brien 1993:65).

CHAPTER FIVE - THE SITES

Ceramic assemblages from three sites were examined. All of the assemblages contained a quantity of shell tempering, a deciding factor in their selection for inclusion in this study. Their spatial and temporal differences were also factors with potential significance.

23BN2 - The Cloverdale Site

The Cloverdale site (23BN2), covering five to six acres, is located along Cloverdale Creek in northwestern Missouri just south of St. Joseph (Feagins and Kleinman 1980:7, Shippee 1972:14) (Figure 5.1). The site is 35 miles north of the Steed-Kisker type site (23PL13). Partially excavated by amateur archaeologist R. B. Aker over 30 years ago, the Cloverdale site revealed an assumed contemporaneous Steed-Kisker/Nebraska phase occupation based on the mixed contexts of artifacts from the excavated storage pits as well from an excavated house and burial site (Feagins 1988:45, Feagins and Kleinman 1980:7). Aker donated his collection of artifacts to the Museum of Anthropology at the University of Kansas, where they are now curated.

A single house from the site was excavated and described by J. Mett Shippee (1972), whose estate retains the recovered artifacts (Feagins 1992:4). The University of Missouri later returned to the site to conduct excavations under the direction of F. A. Calabrese (Ward 1969:14). Characteristics of the scarce and fragmentary ceramic material collected during this later investigation were similar to those recovered by Aker--half of the sherds were shell tempered with some displaying incised or trailed designs on their exteriors. The remainder were grit tempered with exterior cord-marking (Ward 1969:14). Due to the fragmentary condition of the pottery and the unavailability of these two latter collections, they are not included in this analysis.

Excavation notes made by Aker and retained in the museum archives reveal limited information about his investigation of the Cloverdale site. Most of the information about the site was obtained from an interview with of R.B. Aker conducted in 1980 by Jim Feagins and Bernie Kleinman and transcribed in 1992, from a paper Feagins delivered in 1992 at the Fiftieth Annual Plains Anthropological Conference, and from Shippee's 1972 publication. Unfortunately, none of the references provide overall site maps, feature locations, or stratigraphic information, with the exception of the floor plan of the ridge-top house in Shippee's report (1972).

The large habitation site with several houses was divided into three areas based on its distinctive topography -- a high terrace, the valley bottom, and a ridge top -- areas

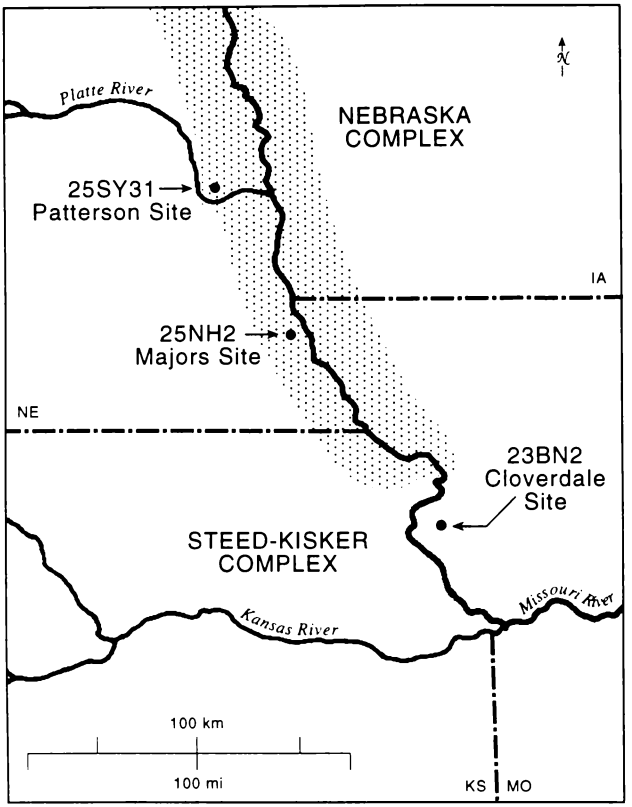


FIGURE 5.1. Location of Sites in this Study

A, B, and C, respectively (Feagins and Kleinman 1980:28). It is not clear from the available information what was included in the artifact assemblage found in Area A, although a few ceramic sherds exist in the collection at the Museum of Anthropology. Because of the lack in information on this area, the sherds mentioned are not included in this study.

The "'village'", Area B, was located on the valley bottom. The available information indicates more than one house may have been located here, at least one

house floor was found but it was not excavated (Feagins 1992:4). It is in Area B where Aker found and excavated 20 storage/trash pits from which the bulk of the artifact assemblage from this site was recovered.

The narrow, ridge top 200' feet above the valley was designated Area C. A square-shaped pit house with rounded corners was found here isolated from the village below (Feagins 1992:4; Shippee 1972:14). Shippee (1972:3) notes that its location is "reminiscent of houses of the Nebraska Culture in eastern Nebraska," but its plan is similar to Steed-Kisker houses found in southern Platte County (Shippee 1972:14). Post holes encircle the perimeter of the house which has a central fireplace and a single pit. The form of the south-east-facing doorway was obscured by trees (Shippee 1972:54-55). Although Shippee indicated otherwise, this plan is very similar to Nebraska phase houses. The location of this house may cause one to wonder if it represents an occupation on the ridge top during a time when the bottom lands were not inhabitable, or if its placement indicates a social or political ideology.

Artifacts from the house floor and pit were similar to those found in Steed-Kisker sites (Shippee 1972:15). Items recovered include bone and antler tools, projectile points, a flint hoe, and ceramics. Feagins (1992:4) states that ceramics from both the Nebraska and Steed-Kisker phases were recovered from the pit. Shippee (1972:15) claims otherwise noting that all but one of the ceramic sherds were shell-tempered. He mentions finding only one rim sherd with incised decorations, but with aplastic inclusions of both sand and shell.

Aker located and excavate 20 storage pits, some with unusual rock linings, from Area B, the so-called "'village"' area (Feagins 1992:4). The volume of artifacts recovered and number of pits suggest repeated occupation of the valley bottom by small groups, or perhaps a single occupation by a large group. If one uses the number of pits as an indicator of house quantities, and assumes four to seven pits per household, three to five houses can be approximated (Blakeslee and Caldwell 1979:46). Artifacts recovered from the pits include numerous points, various bone tools, scrapers, hematite, rock crystal, and ceramics.

Generally, the ceramics recovered by Aker from the excavated pits represent a fairly high number of vessels. At least 157 vessels can be distinguished. This figure is based on Class II sherds which are defined below. The 1,101 smaller rim sherds and over 4,500 body sherds could increase the total vessel number even more. Both Nebraska and Steed-Kisker phase ceramics (based on current ceramic classifications)

were present, and were mixed in the pits (Feagins and Kleinman 1980:7). Sherds vary in size from small fragments to fairly substantial ones measuring over 10 centimeters in both height and width. No complete intact vessels were found.

The associated ossuary to 23BN2 was later renumbered as a separate site, 23BN20. The pottery recovered from the ossuary contained both grit and shell temper, and cord-marking and plain or decorated surfaces. Pottery wares included McVey, Beckman, Debilka, Platte Valley, and Steed-Kisker incised (Feagins 1988:47). Feagins (1988:51-42) notes that judging by the pottery recovered from the Cloverdale ossuary as well as the nearby Sugar Creek ossuary they both "contained a contemporaneous mixture of Nebraska phase and Steed-Kisker phase burials or the Nebraska phase people had obtained a quantity of Steed-Kisker produced vessels."

Unfortunately, we do not have specific dates from 23BN2. Using the dates associated with Blakeslee and Caldwell's (1979:106) seriation and the close proximity of the Cloverdale site to the Brownville locality, we could assume a date range of A.D.1050 to A.D.1250. However, since this range is based on a single radiocarbon date from the Majors site collected in the 1930's and noting the difficulties with the beginning date noted by Bozell and Ludwickson (1994:145-146), the early temporal placement is questionable.

A site (14DP10) in Doniphan County, Kansas (east of Buchanan County) has a date of A.D.1215 and one (23AN56) in Andrew County, Missouri (north of Buchanan County) has an average date of A.D. 1284 (Bozell and Ludwickson 1994:146). Based on recent information and using the above mentioned dates as estimates, the Cloverdale site may have been occupied between A.D.1200 and 1280, although we cannot be certain without more specific information.

25NH2 - Majors Site

The Majors Site (25NH2) covering approximately four to five acres is located one mile west of Peru, Nebraska on a ridge overlooking Buck Creek (Hill and Cooper 1937: 319) (Figure 5.1). Sterns excavated a small corner of this Nebraska phase site and collecting by others also occurred. In 1937, Hill and Cooper relocated the site and conducted systematic excavations. They uncovered a square house with rounded corners, a central fireplace, seven cache pits, and a south-facing extended entrance (Hill and Cooper 1937:320). A relatively small number of artifacts were recovered, including ceramics, projectile points, scrapers, knives, celts, tobacco pipes, stone tools and scapula hoes (Hill and Cooper 1937:321-325). The Majors site is dated B.P.910±140 or

A.D.997-A.D.1277 (calibrated) (Blakeslee 1994:208, Bozell and Ludwickson 1994:155).

Hill and Cooper (1937:322) report recovering 805 ceramic sherds with shell temper (646 or slightly more than 80%), 60 which were rim fragments. Both grit- and shell-tempered sherds display cord-marking, although the percentage of shell-tempered sherds doing so is small at 7% (Hill and Cooper 1937:323). Sixty-eight sherds displayed designs made with V-shaped incisions or grooves, of parallel diagonal lines oppositely placed, forming triangular elements. Five of these sherds had grit inclusions; and, all vessels had smoothed surfaces.

The proportion of shell-tempered vessels at the Majors site was higher than any other Nebraska phase site reported to that time, otherwise the pottery was the same as in other Nebraska phase components (Hill and Cooper 1937:323). Hill and Cooper (1937:351) noted that ceramics at Nebraska phase sites showed considerable variation, while the rest of the artifact assemblage including house types was uniform. The ceramic differences were usually manifested in varying tempering materials, frequency of handles, and the "presence of certain foreign elements such as incised body decoration" (Hill and Cooper 1937:351).

25SY31 - The Patterson Site

The Patterson site (25SY31) is located on a broad ridge overlooking an unnamed tributary of the Platte River in Sarpy County, in southeastern Nebraska (Bozell and Ludwickson 1994:14) (Figure 5.1). The five acre site represents a Central Plains tradition hamlet occupied for some time. It was first tested in 1977 and excavated during the summer of 1984. House three, from where the ceramics used in this study were recovered, was excavated in 1993-1994.

House three is a typical Nebraska phase dwelling, occupied by a nuclear family located at the center of the ridge. Dates from the house are A.D. 1259 to A.D.1283 (Adair, personal communication). The published report about the house, its artifacts, and occupants is forthcoming.

Site Selection

The assumed contemporaneity of ceramics due to their mixed contexts at the Cloverdale site was the deciding factor for their usage in this study. Both the Majors and Patterson sites were included in this study because of the high percentage of shell-tempered ceramics recovered at these locations. The analysis conducted on the pottery of the Cloverdale site was independent of the site's temporal placement in relation to the

other two sites examined. However, patterning between the sites may be evident. The estimated temporal placement of the Cloverdale site indicates possible contemporaneity with House 3 at the Patterson site and potentially the same with the Majors site. Any assumptions made regarding the dating of the Cloverdale site must be made with caution since absolute dates are not available.

Evolution of pottery attributes and spatial patterning may also be evident between the three sites examined. The Majors and Patterson sites are on the western side of the Missouri River and some distance north of the Cloverdale site (approximately 80 miles and 135 miles, respectively). Some of the characteristics found in Steed-Kisker ceramics may still be present but perhaps are not as pronounced. A comparison between the Majors and Patterson sites themselves may show some patterning. The sites are approximately 55 miles from one another and may be temporally separated by at least a century. Changes in the ceramic tradition through time may be evident.

Additionally, comparing the incised designs motifs used on the pottery from the Steed-Kisker phase to those found on the ceramics from the Majors site may help determine the design ancestors of the Majors Opposed Diagonal vessels (Scott 1995). The designs may indeed have Steed-Kisker origins, but may also be from the other groups.

CHAPTER 6 - METHODOLOGY

The ceramic assemblages from all three sites were examined for the same characteristics in order to create a quantitative data base of selected traits. Sensitive to the irreplaceable nature of archaeological remains, data were gathered using only non-invasive techniques.

For this study only rim sherds were examined. Body sherds were excluded due to their enormous quantity (over 4,500 from 23BN2) and the limited information they impart pertinent to this study. No attempt was made at cross-mending the numerous rim and body sherds, an unfortunate circumstance of limited resources and available time. However, the larger rim sherds were cross-mended based on similar characteristics to eliminate any duplication of data and to provide a more accurate specimen/vessel count.

In order to delimit the sample of ceramic sherds to be examined, a size designation was used on all available rim sherds from each of the three sites. Class I sherds, those five centimeters in width or smaller (also referred to as Small Rim Sherds) were determined to be less significant for the purposes of this study, and were separated and examined for the presence or absence of four attributes. The five centimeter sherd size was selected since accurate rim diameters cannot always be obtained from pieces smaller than five centimeters and only a limited amount of recordable information pertinent to this study could be obtained from the small sherds. Specifically, stylistic data in terms of vessel decoration and shape were frequently not observable from small widths. The great majority of the sherds had no significant body portions remaining. Temper, surface finish, rim type, and presence/absence of rim decoration was recorded for each of the small sherds. More information regarding the specifics of these attributes is provided below.

The sherds remaining from the assemblages (those 5.1 centimeters or larger) were designated as Class II, and provided the sample on which the majority of this study was based. There were several Class II sherds with rim widths of less than 5.1 centimeters but which retained a significant portion of the vessel body. Although the data collected on rim diameters are limited, other data obtainable from the sherds are significant.

The list of attributes to be examined on Class II sherds was expanded from the Class I categories to include more presence/absence as well as dimensional data. In

addition to attributes already mentioned, observations regarding vessel shape and appendages, rim orientation, forming methods, firing effects, hardness, and body decoration were recorded. Dimensional data on the rim included thickness, height, and diameter. Dimensional data on the body included thickness, height, and diameter as well as the point of vertical tangency below the rim to aid in the categorization of vessel form. Definitions and further explanations of the attributes are provided below.

Divisions of the design motifs used on the vessel bodies were created in order to observe any patterned usage of design elements and to ascertain the possible origin of the alternating, hatchered-triangle motif found in Nebraska phase pottery away from the core of Steed-Kisker sites. Additionally, the symmetrical repetition of the motifs around the vessel was examined to establish any patterning of placement.

Each Class II sherd from the sites was assigned to one of the already established types to aid in the analysis (Calabrese 1969, Chapman 1980, Gunnerson 1952). Only grit-tempered sherds from the Majors and Patterson site were typed since Gunnerson's typology of Nebraska phase pottery only applied to that aplastic inclusion. A note was made, however, of the type categories for shell-tempered sherds using the diagnostic characteristics (excluding the aplastic inclusion) of Gunnerson's typology, to facilitate assemblage comparisons.

Attribute Definitions

TEMPER - Temper or aplastic inclusions in the paste were identified with the naked eye or, when questionable, through the use of a binocular microscope using a 10X lens. If necessary, a solution of diluted hydrochloric acid was used to confirm the present of calcium carbonate.

Three categories of temper were determined to be significant for use in this study -- grit, shell, and none. Each sherd was examined for the presence of one or more of the tempers selected. Grit temper pertained to any inclusions crushed rock, regardless of size and quantity. It is recognized that is often difficult if not impossible to determine whether the grit inclusions are natural or introduced by the potter without clay paste sourcing and paste analysis (Rye 1981:34). These actions were not undertaken for this study; and, it was assumed grit inclusions were intentional.

Shell temper was either observed as minute bits of shell or as oval voids in the fired paste resulting from the leaching of the shell over time. When necessary to confirm the presence of calcium carbonate, a solution of diluted hydrochloric acid was used. In the few instances when both the presence of shell and crushed rock were

observed as part of the paste in a sherd, the use of both tempers were noted.

When inclusions were as small as the clay particles and not observable using the methods earlier described, temper was recorded as none.

SURFACE FINISH - Three types of surface finish were deemed pertinent -- cord-marked, smoothed, and polished -- and one type was recorded for all sherds. The recording of surface finish was made with no consideration of any incised or plastic designs present on the vessels. Cord-marking was indicated regardless of the "quality" of application, from cleanly applied and readily visible to almost obliterated from subsequent smoothing after application or application on a nearly dry vessel. There is some debate among archaeologists regarding the consideration of cord-marking as a design or a surface finish having to do with the technological function of the vessel (Rice 1987:138, Shepard 1983:186). The present study adheres to the latter view.

A smoothed surface was indicated when the vessel surface had a smooth surface with a matte appearance. A polished surface finish was recorded when the vessel surface was smoothed and imparted a reflective luster. It is acknowledged that some vessel surfaces may have originally been polished but the reflective luster has been altered by post-depositional changes. Since the presence of a polished surface finish cannot be definitively made in these instances, sherds such as these are recorded as having smooth surfaces. If any cross-mended sherds were found to have both matte and reflective surfaces, the entire specimen (vessel) was recorded as having a polished surface.

VESSEL SHAPE - Vessel shape was recorded for all Class II sherds. Four shapes were recognized -- globular, carinated, bowls, and bottles (Figure 6.1). For purposes of this study the form of the vessel was determined by observing the contour from the base of the neck to the base of the vessel. "Globular" vessels were those with an overall rounded shape, containing no breaks in form or sharp inflection angles (for more discussion on vessel form determinations see Shepard 1983). "Carinated" vessels were those with a sharp angular inflection at the point of vertical tangency. Jars which were too fragmentary to ascertain the shoulder shape were classified as "undetermined jars". "Bowls" were inward curving- or straight-walled vessels with no neck. Their orifices were either constricted or unconstricted. Vessels with a greatly elongated necks (over five centimeters in length) leading directly to the body were defined as "bottles".

APPENDAGES - The presence or absence of appendages was recorded for each Class II sherd. These included lug, strap, and tab handles, as well as any effigy

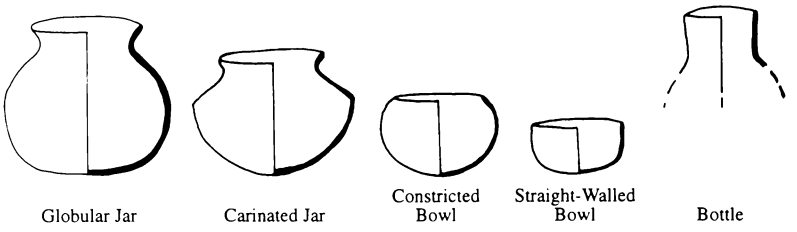


FIGURE 6.1. Vessel Shapes

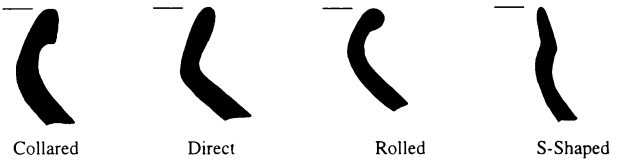


FIGURE 6.2. Rim Types

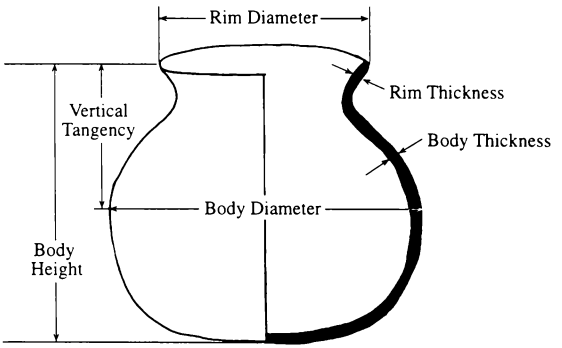


FIGURE 6.3. Measurements taken on Vessels

heads or tails. If evidence of a once-present handle or tail as indicated by attachment scarring was observed, the appendage was recorded as being present. Sherds consisting mostly of an appendage with little or no rim attached, and therefore limited recordable information pertinent to this study, were not included in the database.

FORMING - An attempt to examine the forming method of the vessel was made on each Class II sherd. Three categories were selected -- lump formation or pinching, coiling, or undetermined. These forming methods were typically employed in Central Plains or Mississippian traditions (Strong 1935:252-253, Wedel 1943:74). Forming vessels by the wheel technique is unknown in the new world and there is no evidence of slab formation or the use of molds in the pottery traditions examined. The use of broken vessel bottoms as a "mold" to begin the formation of new pots may have occurred but it was impossible to observe in the assemblages examined. Lump or pinching was selected when the vessel clearly appeared to be formed from a lump of clay with the sides pinched or pulled in an upward motion.

The coiling method was observable through the either presence of distinct coils which were not completely smoothed flat usually visible on the vessel interior, breakage patterns along a weak joint between coils, or sometimes a circular alignment of aplastic materials visible on a cross-section of the sherd (Rice 1987:127). Careful observations were made to prevent any confusion of interior scraping marks with evidence of coiling.

To determine forming method, a fundamental part of ceramic technology, via the naked or only slightly aided eye (binocular microscope at a 10X power) is extremely difficult. A petrographic thin section may better elucidate the techniques used. The often equidimensional pieces of the inclusions and the platy nature of the clay particles do not display any preferential orientation, leaving only imperceptible clues (Shepard 1983:184). As this study included non-intrusive methods, cross-sectioning was not employed.

Subsequent use of a paddle and anvil to further shape the vessel and thin the walls is often evidenced by rounded depressions from the placement of the anvil on the interior walls. This shaping technique can be used with any forming method (Shepard 1983:185). Care was taken not to confuse the two techniques when examining the sherds, and anvil marks on vessel interiors were not used as a clue to a forming method.

FIRING - Class II sherd cross-sections were examined to determine the effects of firing as reflected in the appearance of the ceramics as a result of the firing process. There was no attempt to postulate as to the actual firing methods (for a further

discussion see Rye, 1987:110, Shepard 1983:213-224). The sherds were categorized as being reduced (presence of a gray core) or fully oxidized (no gray core).

It is recommended that to observe the effects of firing via the cross section of a sherd, a clean break is needed to assure the absence of post depositional mineral deposits along existing breaks which may obscure visual examination (Orton, Tyler, and Vince 1993:135-136). However, since nondestructive methods were used in this study, new breaks were not made. Sherds were examined at various points on existing breaks to ascertain the effects of firing. When necessary the breaks were cleaned off by brushing with a dry toothbrush.

RIM TYPE - For all sherds, rim types were examined. Four types were differentiated -- a collared rim, a direct rim, a rolled rim, and an S-shaped rim (Figure 6.2). Collared rims were those which had an additional thickening or fillet of various lengths beginning directly at the lip or slightly lower. It is not within the scope of this study to consider whether these are "true" collars; it has been suggested that only thickenings 2.5 cm or longer are such (Ludwickson, personal communication). A direct rim is defined as one which rises from the vessel and is of a relatively even thickness throughout, whether it is the same thickness of the vessel body or not. In a rolled rim, the width of the clay is doubled over generally creating a squat and low profile. An S-shaped rim is similar to a direct rim but it has an elongated, concave channel on the interior surface, usually near the midpoint of the rim.

RIM ORIENTATION - Rims were examined for their profile orientation. Three categories were selected and are vertical, flared, and inverted.

RIM DECORATION - Class II sherds were examined for the presence of decorations on the rims. Again cord-marking extending throughout the vessel from the lip to the base was considered to be a surface treatment and was not defined as rim decoration. Rim decoration usually appeared in the form of punctations or incisions.

BODY DECORATION - The body portion (the portion below the base of the neck) of the sherds was examined for the presence of decoration. As mentioned earlier, cord-marking was defined as a surface finish. All body decorations were in the form of grooved or incised lines on the shoulder portion of the vessel. A design repertoire was developed for the motifs seen in the sherds from the sites examined. Eleven basic designs were recognized and a category designation was given to each (see chapter 7).

RIM THICKNESS - Since a degree of variability due to the hand-crafting of the ceramics exists, thickness measurements reflect the mean. All measurements were taken

with the same set of calipers. Rim thickness measurements on Class II sherds were taken 5 mm below the lip. Measurements were taken at two points along the rim -- at the thinnest and thickest -- and averaged to obtain one figure for ease of comparison. Figure 6.3 illustrates measurements taken.

RIM HEIGHT - Rim height was measured from the base of the neck to the lip. Dimensions were taken at the lowest and highest portion of the rim and averaged. When the neck was not distinctive, its base was determined to the be center of the inflection point between the body and the rim.

RIM DIAMETER - Rim diameter was determined by measuring the inner orifice using a diameter chart.

BODY THICKNESS - Body thickness was measured at several points along the profile of the body (the portion below the neck). Again the thinnest and thickest measurements were averaged together.

BODY HEIGHT - Body height was determined only on those sherds which had a significant portion of the body remaining, usually to the base. A few measurements were estimated by projecting the vessel wall curvature. Heights were determined using a device created specifically for the purpose based on Shepard's recommendation (1983:254-255). In this study measurements of body height, diameter, and vertical tangency were taken with the pot upside down, that is with the sherd resting on the rim. This technique was used for consistency since few sherds had enough base for accurate measuring. Using only these sherds would have unnecessarily reduced the sample size of measurable specimens. The rim provided a similar point of origin for all sherds measured.

BODY DIAMETER - Body diameter was determined on vessels whose fragments contained a sufficient portion of the body. The aforementioned device was used to measure diameter, by running a vertical line from the point of greatest vertical tangency to the diameter chart placed below. The diameters computed this way measure the vessel exterior diameter and cannot account for the variation in wall thickness present in the pottery. Any calculation based on proportion ratios between rim and body diameters must consider this variation.

VERTICAL TANGENCY - The vertical tangency as defined here is the height of a point where a vertical line from the rim level (when the specimen is upside-down) touches the sherd wall at its greatest diameter. This point is useful in drawing profiles as well as in analyzing vessel shape (Shepard 1983:226).

HARDNESS - Hardness was measured on each sherd based on the Mohs' scale of hardness. A piece of glass (4.5), a copper wire (3), and a fingernail (2.5) were used a measuring gauges (substitutes after Grimshaw 1971 as cited in Rice 1987:356).

COLOR - Color ranges of all Class II sherds were noted. The lightest and darkest colors present were measured using a 1954 Munsell Soil Color Chart. The variation of color measurable on individual sherds was great and probably due to the effects of firing, subsequent pot use, or post-depositional changes (Orton, Tyler, and Vince 1993:138). It was difficult to determine the basic color of the sherd. Ultimately, it was decided that color was not useful for this study due to its great variation, and therefore will not be considered further.

CHAPTER SEVEN: ANALYSIS, RESULTS, AND DISCUSSION

The Cloverdale Site - Class I Sherds

Ceramics from the Cloverdale site (23BN2) were the first to be examined. As stated in the methodology, the sherds were separated into two classes -- Small Rim Sherds or Class I (those ≤ 5 cm) and Big Rim Sherds or Class II (those > 5.1 cm). The Class I sherds were examined for the nature of or presence/absence of four attributes -- temper, surface finish, rim type, and rim decoration. The results of the examination of 1,101 rim sherds from the Cloverdale site are found in Table 7.1.

TABLE 7.1. Class I Attributes - Cloverdale Site (n=1101)

	n	%		n	%
Temper			Surface Finish		
Grit	757	69	Cord-marked	513	47
Shell	263	24	Smoothed	574	52
None	81	7	Polished	14	1
Rim Type			Rim Decoration		
Collared	359	33	Present	312	28
Direct	742	67	Absent	789	72

The data recovered from the Class I sherds can aid in determining a tentative temporal placement of the Cloverdale site based on Blakeslee and Caldwell's (1979) findings. When the total of all grit-tempered sherds (n=757 or 69%) is combined with sherds exhibiting no temper and at least one typical Nebraska phase characteristic (i.e. cord-marking, collared rim, or decorated rim), results reveal that 799 sherds or 72% of the Cloverdale small sherd assemblage can be associated with the Nebraska phase. The characteristics used to determine Nebraska phase affiliation are those specified in Gunnerson's 1952 typology. Counts of rim types and rim decoration (Table 7.2) are spatially and temporally meaningful attributes in the Blakeslee and Caldwell seriation. The higher percentage of direct rims and that of plain rims (without decoration) is in accordance with Blakeslee and Caldwell's (1979:108) findings for the more southern Nebraska phase sites. However, the dating of the Cloverdale site was based on other research as discussed in Chapter 4.

The appearance of shell-tempered, cord-marked sherds (n=21 or 2%) in the Class I assemblage from the Cloverdale site indicates an intermingling of two characteristics normally used as diagnostic separators in the developed ceramic types. One Class II sherd (#A1362/89) typed as McVey Plain has been patched with shell-

tempered paste. Based on the presence of these commingled attributes in both classes of sherds, it is clear that at the Cloverdale site the knowledge and usage of ceramic production techniques encompassed a broader range than that implied by the segregating ceramic typologies used by modern archaeologists.

TABLE 7.2. Class I Rim Types and Decoration - Nebraska Phase - Cloverdale Site (n=799)

Rim Type	n	%	Rim Decoration	n	%
Collared	343	43	Present	250	31
Direct	456	57	Absent	549	69

The Cloverdale Site - Class II Sherds

Class II sherds (those > 5.1 cm) were examined for the nature of or the presence/absence of ten attributes -- temper, surface finish, vessel shape, appendages, forming method, firing effects, rim type, rim orientation, rim decoration, and body decoration. Sherds from the same vessel were cross-mended in order to obtain a minimum vessel count which totaled 157. Patterning in attribute distribution could indicate the existence of clear distinctions regarding ceramic characteristics and their associated cultural groups. It may also provide information concerning the strength and comprehensiveness of current ceramic typologies for the area.

Examination results of the ten attributes representing the assemblage of Class II rim sherds from the Cloverdale site are found in Table 7.3.

A few general comments on forming methods and the effects of firing are warranted. Discussion of other attributes is provided later in the chapter. Ten sherds, or 6.7%, exhibited coiled manufacturing. All ten sherds were either typed as Platte Valley Plain (n=7) or Steed-Kisker Incised (n=3). Coiling appeared on the upper part of the vessel above the shoulder inflection point. On some of the sherds the lower portion of the vessel was possibly formed by the lump method as evidenced by the differing wall thickness in the various parts of the vessel. The wall under the shoulder is thinner (perhaps where the lump became exhausted) than that above the shoulder (where new clay had been added). The appearance of coiling in the upper area seems reasonable on carinated vessels (n=5) especially. The action of pulling clay upward from the base, as is done in lump forming, would made the preservation of a sharp shoulder angle difficult during the formation process if lump modeling was used alone. Adding clay to an already-formed bottom by means of coils would facilitate the preservation of a sharp

shoulder. Certainly, the entire vessel could have been formed using the coiling method with substantial thinning being done just below the shoulder inflection prior to the addition of the upper body, although this is not evident in the sherds examined. The smaller, elongated neck of the bottle clearly exhibited use of the coiling method. Usage of the coiling technique was also noted on three globular jars and one sherd of undetermined vessel shape.

TABLE 7.3. Class II Attributes - Cloverdale Site (n=157)

	n	%		n	%
Temper *			Surface Finish		
Grit	99	62	Cord-marked	65	42
Shell	54	34	Smoothed	71	45
None	6	4	Polished	21	13
Vessel Shape			Rim Type		
Globular	102	65	Collared	26	16
Carinated	27	18	Direct	119	76
Bowl	11	6	Rolled	9	6
Bottle	2	1	S-Shaped	3	2
Undetermined	15	10			
Rim Orientation			Appendages		
Vertical	27	17	Present	22	14
Flared	124	79	Absent	135	86
Inverted	6	4			
Forming Method			Firing Effects		
Lump	147	94	Reduced	149	95
Coiling	10	6	Oxidized	8	5
Rim Decoration			Body Decoration		
Present	27	17	Present	32	20
Absent	130	83	Absent	125	80

* Two specimens exhibited both aplastic inclusions.

The data collected reveal that the vast majority (95%) of the sherds exhibit a gray core and were not fully oxidized during firing. This is a possible result of the open firing techniques probably being used by prehistoric potters of the area. Only eight sherds, or 5%, showed complete oxidation. While these vessels could have been fired in a oxidizing atmosphere, it is likely that the appearance of oxidized sherds is due to chance and caused by the patterning of the vessel break with only the oxidized portion of the vessel appearing.

The range of vessel hardness found at the Cloverdale site was between 2 and 4 (mean of 2.4) on the Mohs' scale as expected (Wedel 1943:74). The value of hardness measurements in a preliminary study such as this is questioned by Shepard (1983:114). Variability of clays, the composition of the paste and the firing conditions are primary determinants of hardness and must be taken into account. Additionally, post-depositional changes may also affect the hardness of recovered vessels.

In order to facilitate the analysis and interpretation of data, the Class II sherds were classified according to previously defined types (Calabrese 1969, Chapman 1980, Gunnerson 1952) (Table 7.4). By examining the assemblage based on ceramic types and their associated cultural groups, patterns regarding ceramic attribute segregation or overlap are more easily noticed.

TABLE 7.4. Class II Types - Cloverdale Site (n=157)

	n	%		n	%
McVey (n=80)			Debilka (n=7)		
Plain	61	39	Constricted	4	2
Pinched Fillet	3	2	Straight	3	2
Tool Decorated	10	6			
Rolled Lip	6	4	Swoboda (n=3)		
			Tool Decorated	1	1
Beckman (n=13)			Cord-Marked	2	1
Tool Decorated	8	5			
Pinched Rim	3	2	Platte Valley Plain	18	11
Cord-Marked	1	1			
Smoothed	1	1	Steed-Kisker Incised	36	23

Percentages of each attribute as it appears in the cultural complexes implied by the defined types are plotted in Figure 7.1. Sherds categorized as McVey, Beckman, Debilka, or Swoboda types are associated with Nebraska phase and make up 65% of the assemblage. Sherds typed as Platte Valley Plain or Steed-Kisker Incised are associated with the Steed-Kisker phase and represent 35% of the assemblage.

As illustrated, the tempering material shows a clear division between the groups. This is undoubtedly the result of using this attribute as the most significant delineating criterion when the types were initially defined. Gunnerson (1952) only considered grit tempering when he developed type-varieties for the Nebraska phase ceramics. Many of the subsequent examinations (Anderson 1961, Blakeslee and Caldwell 1979, Ives 1955) acknowledged the presence of shell-tempering in Nebraska phase ceramics, but type names were not assigned. McNerney (1987) in his study of Nebraska phase effigy

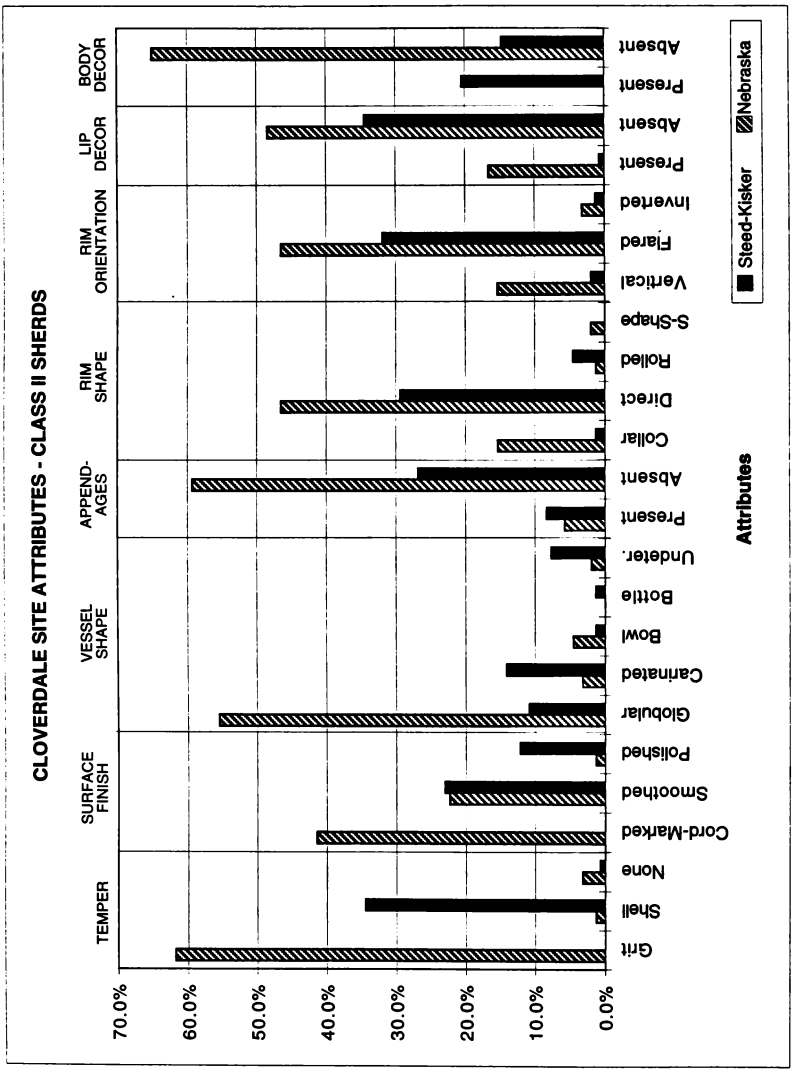


FIGURE 7.1. Ceramic Attributes from Cloverdale Site

pipes and figures casually mentioned adding a McVey Shell type; but, it included incised or excised designs in the alternating, hatchered-triangle pattern not applicable here. Scott's (1995) recently proposed type of Majors Opposed Diagonal refers to the same ceramic characteristics.

A number of attributes are found on the ceramics of both cultural groups, some in equal proportions, others in an equal number of cases. These characteristics include smoothed surfaces, the presence and absence of appendages, direct rim shapes, flared rim orientation, and the absence of rim decoration. Other ceramic attributes occur in the ceramics of both cultural complexes but to a lesser degree -- globular and carinated jar forms, and the absence of body decoration. The larger proportion of globular, grit-tempered vessels and carinated, shell-tempered pottery is expected since the combination of these attributes is used in type definitions.

Significant differences are found in the higher proportions of cord-marking, collared rims, vertical rims, rim decoration, and body decoration. The first four characteristics typically appear on the Nebraska phase vessels at the Cloverdale site. Most of these attributes were used by Gunnerson (1952) to designate types and varieties. The presence of body decoration only appears here on shell-tempered sherds. This characteristic was used to define the Steed-Kisker Incised type (Chapman 1980). Discussion of body design motifs at the Cloverdale site is found later in the chapter.

Metric data were also taken for Class II sherds -- thickness, height, and diameter for both rims and bodies, as well as the point of vertical tangency. The cases included in each group of measurements varied depending on the completeness of the sherd. The metric data were examined using principal components analysis to determine what accounted for the variation in the vessel shapes and to discern any existing patterning of vessel forms. Jar forms -- globular, carinated, and undetermined -- were examined solely since the single vessel shape provided a more uniform comparison. Bottles and bowls (n=11) were excluded from the principal components analysis since these forms are already recognized and little useful light in terms of this study could be shed through additional analysis.

In order that widely varying measurements not skew the results, each dimension was standardized by a division of 380 which represents the largest measurement of the assemblage, a body diameter (#A1555/89). Missing cases were replaced by the appropriate mean (see Appendix A) for that dimensional attribute in order to obtain the largest sample size (n=146). Medians rather than means may have been more

appropriate substitutions but generally the means were very similar (Appendix A). The largest difference between the mean and median was in the body diameters which was not unexpected due to the low count. The eigenvalues and the variance accounted for by the components are shown in Table 7.5, and the loadings of the significant factors in Table 7.6.

TABLE 7.5. Class II Eigenvalues and Variances - Cloverdale Site (n=146)

Factor	Eigenvalue	Percentage variance	Cumulative variance
1	2.523	36.0	36.0
2	1.540	22.0	58.0
3	.964	13.8	71.8
4	.766	10.9	82.8
5	.749	10.7	93.5
6	.428	6.1	99.6
7	.030	.4	100.0

TABLE 7.6. Class II Factor Loadings - Cloverdale Site

Variable	Factor I	Factor II
Rim Thickness	-.62053	.54239*
Rim Height	-.18669	.54734*
Rim Diameter	-.44331	.49343
Body Thickness	-.37279	.46454
Body Height	.44310	.49881
Body Diameter	.89088*	.31887
Vertical Tangency	.88180*	.36921

* Highest values for factors

Four of the seven variables (two for each factor) account for more than half of the variation in the data. The body diameter and vertical tangency variables have high positive correlations with Factor I which accounts for 36% of the variation of the metric data. Review of the raw data of the corresponding cases, all of which are positive, reveals that Factor I specimens with high scores represent vessels which have large body diameters (22 of the 23 cases ≥ 200 mm) and higher points of vertical tangency (21 of the 23 cases ≥ 60 mm). When the value of the point of vertical tangency is transposed (since it represents the distance down from the rim), it is apparent that the highest scoring vessels tend to have low points of greatest width or, if you will, lower bellies.

A comparison of vessel profiles from cases with high scores for Factor I (≥ 1.00) indicates varying vessel forms (globular and carinated) and points of vertical

tangency (Figure 7.2). The distribution of significant cases is clearer in a scattergram of all available body diameters and vertical tangencies (Figure 7.3). Cases with higher scores (and thus higher body diameters) cluster together. The graph shows that vessels with identical body diameters have differing points of vertical tangency. Case #121, which is somewhat of an outlier, may have been included since a body height (1 of 6 available) was obtainable from the sherd. A factor score of .44310 was assigned to the body height variable, and although it is relatively low, it indicates that this dimension accounts for some of the variation in vessel shape.

A regression analysis was conducted on the body diameters and vertical tangencies prompted by the linear relationship apparent in the scattergram. The regression line has been drawn in the figure. The calculated correlation coefficient indicated a fairly strong positive relationship between body diameters and vertical tangencies ($r = 78$; critical value at the .01 level with 42 degrees of freedom $r = .3932$) (Thomas 1986:508). The Coefficient of Determination provides an estimate of goodness of fit and indicates that $r = 0.61$. By extension, we can say that 61% of the variation in vertical tangencies is related to body diameters (Shennan 1988).

Factor II accounts for 22% of the variance in the vessels, and is associated with moderate positive correlations of rim heights and rim thicknesses, and to a lesser degree body heights and rim diameters. Significant component scores for individual cases are both negative and positive. Sherds associated with lower scores tend to have lower rim heights and thinner rim dimensions; those with high factor scores have higher, thicker rims (Figure 7.4) (Appendix A). While rim heights may be a matter of functional or stylistic selection, rim thicknesses may have structural constraints in that higher rims are better supported by thicker walls.

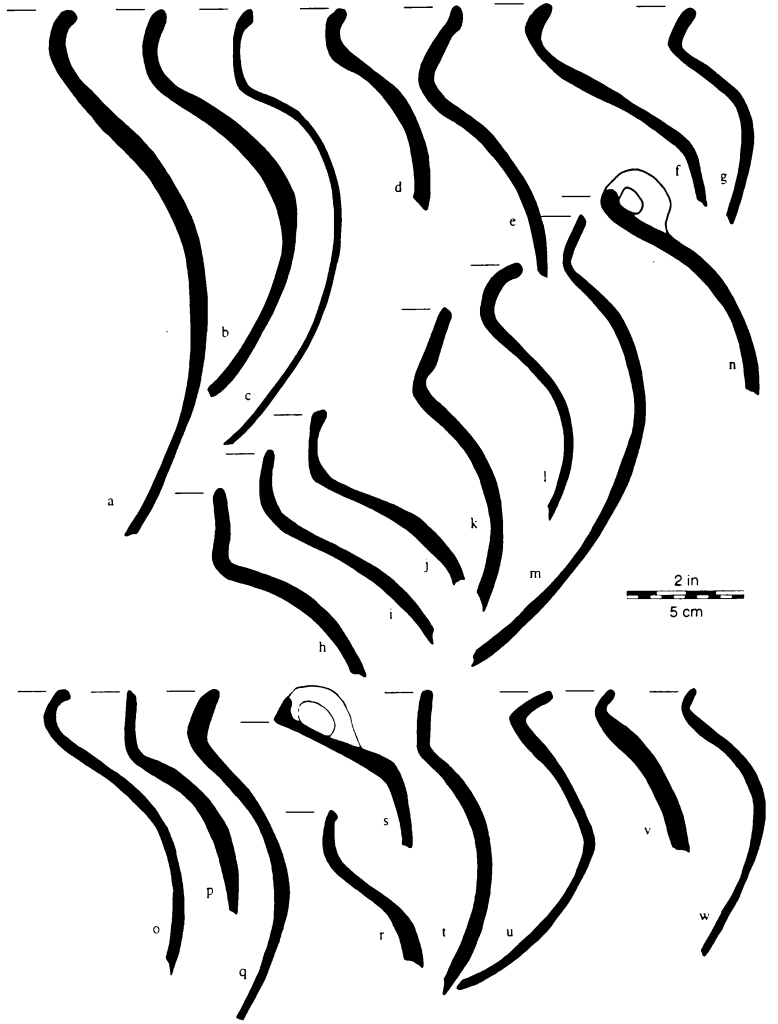


FIGURE 7.2. Vessel Profiles from Cloverdale Site with Significant Factor I Scores

a. A1555/89; b. A1407/89; c. A1408/89; d. A1258/89; e. A0932/89; f. A1409/89; g. A1404/89; h. A1973/89; i. A1971/89; j. A1964/89; k. A0927/89; l. A0930/89; m. A1410/89 ; n. A1052/89; o. A0929/89; p. A0923/89; q. A1403/89; r. A1401/89; s. A1049/89; t. A0922/89; u. A0942/89; v. A1255/89; w. A1281/89.

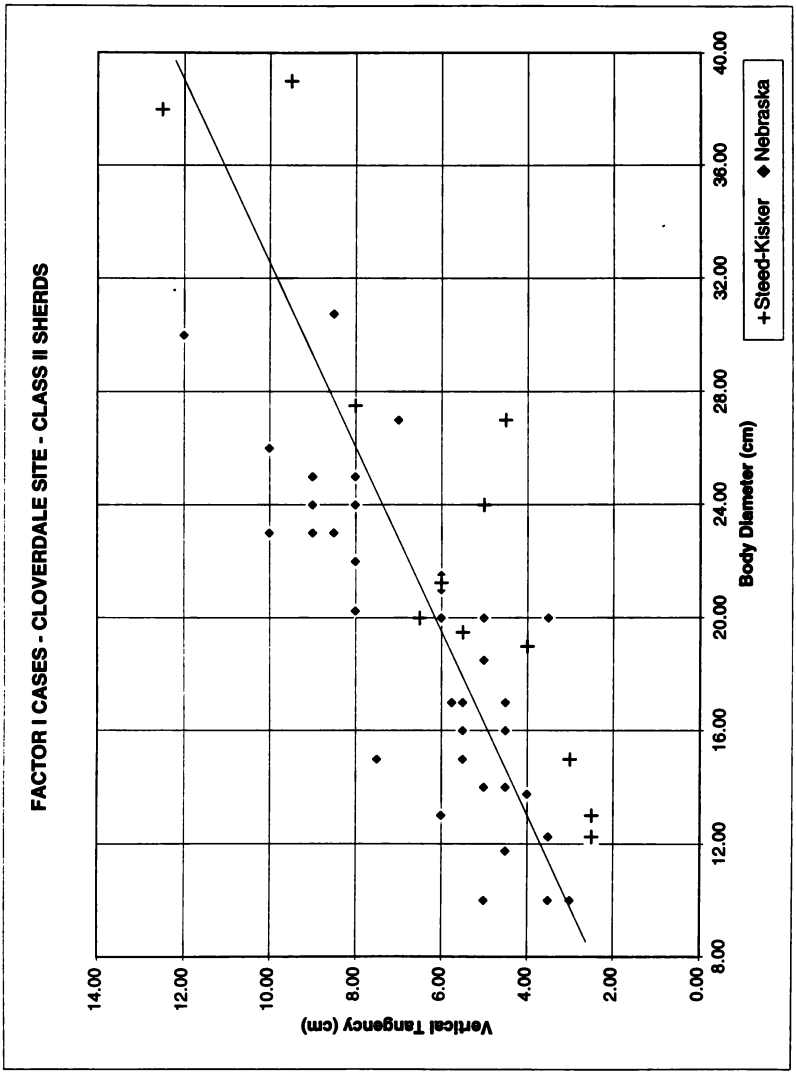


FIGURE 7.3. Scattergram of Body Diameters and Vertical Tangencies for Cloverdale Site Vessels

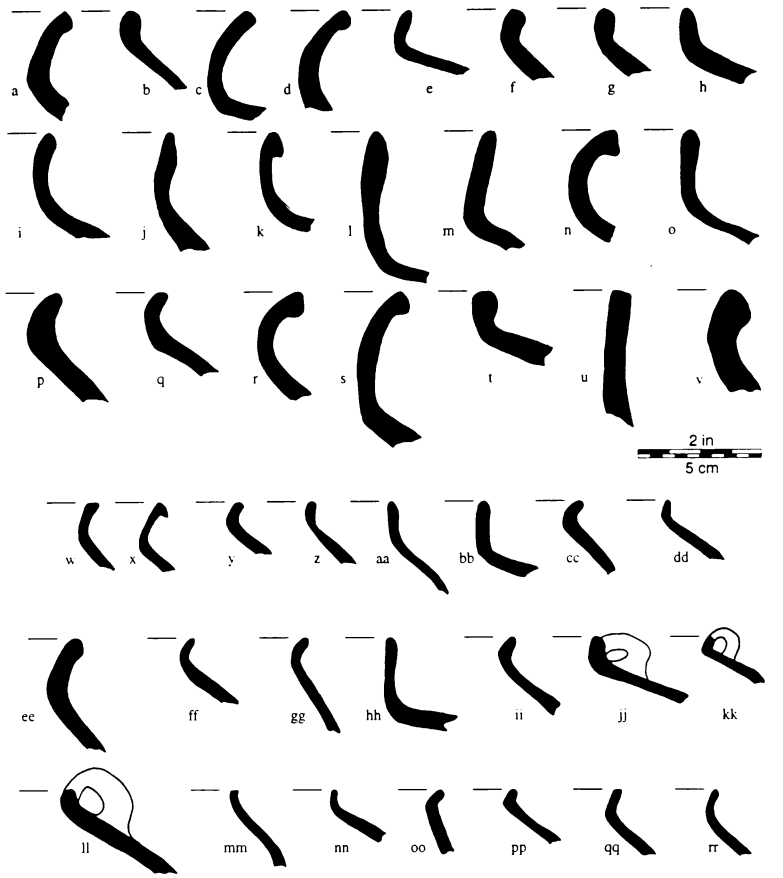


FIGURE 7.4. Rim Profiles from Cloverdale Site with Significant Factor II Scores (a-v = high positive scores; w-rr = high negative scores);

a. A1349/89; b. A1234/89; c. A1364/89; d. A1350/89; e. A0958/89; f. A1310/89; g. A0969/89; h. A1324/89; i. A1407/89; j. A1966/8; k. A1386/89; l. A0936/89; m. A0939/89 ; n. A1380/89; o. A1362/89; p. A1247/89; q. A1258/89; r. A1363/89; s. A1397/89; t. A1323/89; u. A1980/89; v. A0934/89; w. A0987/89; x. A1348/89; y. A1218/89; z. A1970/89; aa. A1961/89; bb. A1554/89; cc. A1249/89; dd. A1058/89; ee. A1405/89; ff. A1281/89; gg. A1239/89; hh. A1967/89; ii. A1044/89; jj. A1062/89; kk. A0953/89; ll. A1052/89; mm. A1028/89; nn A.0989/89; oo. A1251/89; pp. A1183/89; qq. A1965/89; rr. A1960/89.

The Majors Site

Attribute (its nature or its presence/absence) and metric data were collected from both classes of sherds from the Majors site. Examination results from the attribute data are presented in Tables 7.7 and 7.8.

TABLE 7.7. Class I Attributes - Majors Site (n=34)

	n	%		n	%
Temper			Surface Finish		
Grit	25	74	Cord-marked	6	18
Shell	9	26	Smoothed	27	79
None	0	0	Polished	1	3
Rim Type			Rim Decoration		
Collared	2	6	Present	7	21
Direct	32	94	Absent	27	79

TABLE 7.8. Class II Attributes - Majors Site (n=19)

	n	%		n	%
Temper			Surface Finish		
Grit	1	5	Cord-marked	3	16
Shell	18	95	Smoothed	10	53
None	0	0	Polished	6	31
Vessel Shape			Rim Type		
Globular	13	68	Collared	1	5
Carinated	0	0	Direct	18	95
Bowl	2	11	Rolled	0	0
Jar	0	0	S-Shaped	0	0
Undetermined	4	21			
Rim Orientation			Appendages		
Vertical	4	21	Present	6	32
Flared	13	68	Absent	13	68
Inverted	2	11			
Rim Decoration			Body Decoration		
Present	0	0	Present	5	26
Absent	19	100	Absent	14	74

As stated earlier the high percentage of shell-tempered ceramics at the site is unusual and the reason why it was included in this study. Other characteristics appearing in the majority of the vessels include globular jar forms, smoothed surfaces, direct and flared rims and absences of rim and body decoration and appendages. The

sherd exhibiting a collared rim is shell-tempered with a cord-marked surface. The other two cord-marked vessels were also shell-tempered but had direct rims. The high percentages of grit-tempered Class I sherds is interesting. It may be the consequence of not cross-mending sherds (resulting in inflated counts), or it could indicate the fragile nature of the vessels or that they were more heavily utilized.

Although the Majors site is labeled a Nebraska phase site, the recovered ceramics are not easily classified. Shell tempering precludes the use of Gunnerson's (1952) typology for almost all of the sherds, although most are similar to McVey Plain (n=17) and one is similar to Beckman Cord-marked. McNerney's (1987) McVey Shell or Scott's (1995) Majors Opposed Diagonal can be used for five specimens. The one grit-tempered vessel can be classified as McVey Plain.

The Patterson Site

Data on the attributes of Class I and Class II sherds were accumulated from the Patterson Site (House 3) and are presented in Tables 7.9 and 7.10, respectively.

TABLE 7.9. Class I Attributes - Patterson Site (n=95)

	n	%		n	%
Temper			Surface Finish		
Grit	61	64	Cord-marked	2	2
Shell	16	17	Smoothed	93	98
None	18	19	Polished	0	0
Rim Type			Rim Decoration		
Collared	5	5	Present	7	7
Direct	90	95	Absent	88	93

Like the Majors site, the relatively high percentage of shell tempering at this site was a selection criterion for inclusion in this study. Findings from the Patterson site regarding the high percentage of undecorated, direct rims corroborates Blakeslee and Caldwell's (1979:106) seriation of sites from the South Bend locality where the site is placed.

Two vessels at the Patterson site are both grit- and shell-tempered and exhibit direct rims and smoothed surfaces. Globular jars dominate the Class II assemblage while the three methods of surface finish are evenly distributed. The rim decoration present appears on both of the collared vessels which are grit-tempered and on one shell-tempered, direct rim vessel. All three of these vessels are cord-marked.

TABLE 7.10. Class II Attributes - Patterson Site (n=8)

	n	%		n	%
Temper			Surface Finish		
Grit	6	56	Cord-marked	3	38
Shell	3	33	Smoothed	3	37
None	1	11	Polished	2	25
Vessel Shape			Rim Type		
Globular	7	88	Collared	2	25
Carinated	0	0	Direct	6	75
Bowl	0	0	Rolled	0	0
Bottle	0	0	S-Shaped	0	0
Undetermined	1	12			
Rim Orientation			Appendages		
Vertical	2	25	Present	3	38
Flared	6	75	Absent	5	63
Rim Decoration			Body Decoration		
Present	3	38	Present	0	0
Absent	5	63	Absent	8	100

Seven of the Patterson site vessels were classified (Table 7.11). The same difficulties in typing the vessels at the Majors site are encountered here for the single, wholly shell-tempered pot which is similar to McVey Plain.

TABLE 7.11. Class II Types - Patterson Site (n=7)

	n	%		n	%
McVey			Beckman		
Plain	4	58	Tool Decorated	1	14
Tool Decorated	1	14	Cord-Marked	1	14

If we are to retain the ceramic typology nomenclature developed by Gunnerson (1952) perhaps McNerney (1971) was moving in the right direction by recognizing the existence of shell-tempered pottery -- and naming it -- in Nebraska phase sites. However, due to the difficulties with the initial and subsequent systems as noted by Blakeslee and Caldwell (1979:47-51), perhaps it would be best to re-examine and reclassify the ceramics to account for the known variation in both grit- and shell-tempered pottery.

Intersite Analysis

Analysis of all three sites was conducted in order to discern any patterning which might exist in terms of ceramic characteristics and vessel shapes and sizes. Resemblances in attribute distributions and shape similarities may indicate continuity of the ceramic traditions noted at the Cloverdale site.

Scattergrams of the important variables resulting from the principal components analysis were created using the metric data from all three sites in order to discern any existing patterning in terms of vessel size among the assemblages (Figure 7.6). In general, the vessels from the Majors and Patterson sites are distributed in a similar manner as those from Cloverdale. One Majors site vessel falls within the range of the smaller vessels, while the others cluster with the larger vessels and those with greater points of vertical tangencies, or lower bellies. Figure 7.5 provides vessel profiles of the Majors and Patterson vessels for comparison. The data seem to indicate a trend toward larger, fuller bodied vessels, although this statement must be made cautiously due to the small sample size of two of the assemblages.

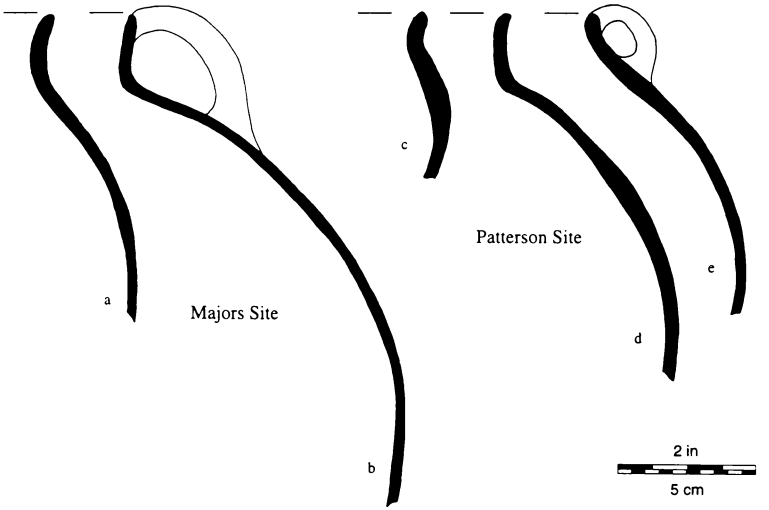


FIGURE 7.5. Vessel Profiles from Majors and Patterson Sites

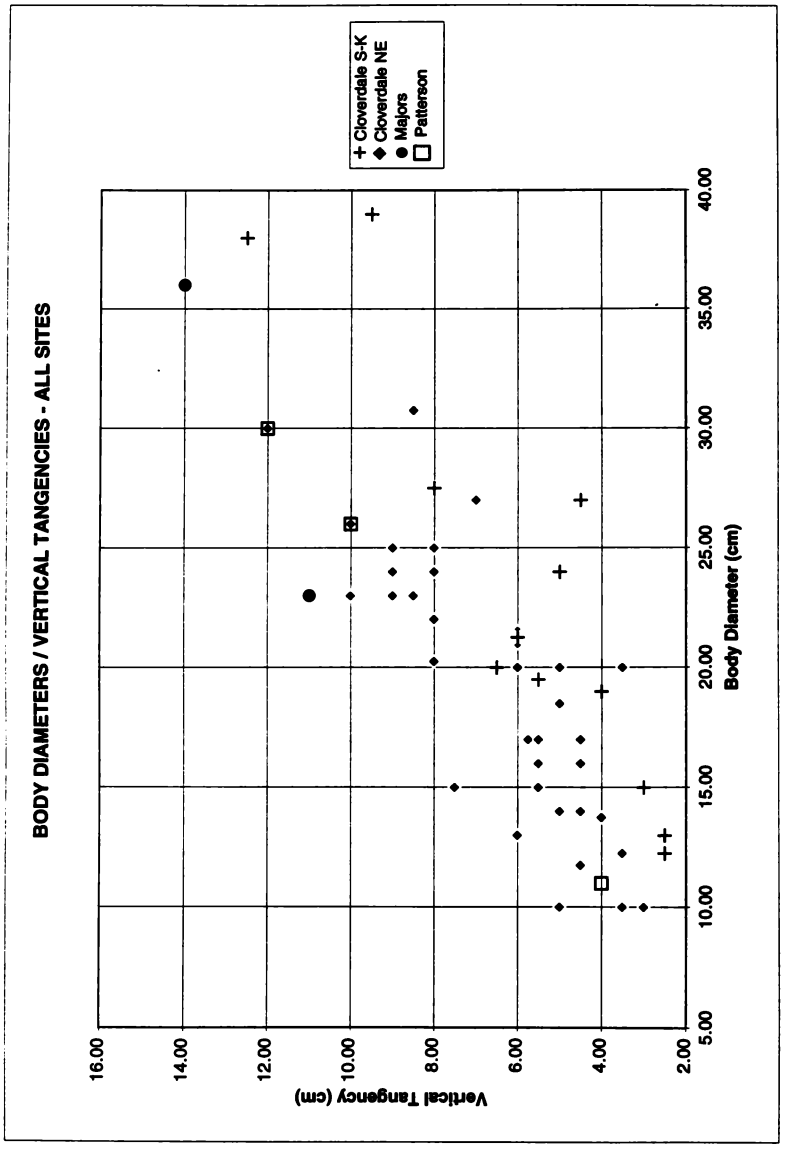


FIGURE 7.6. Scattergram of Body Diameters and Vertical Tangencies from All Sites

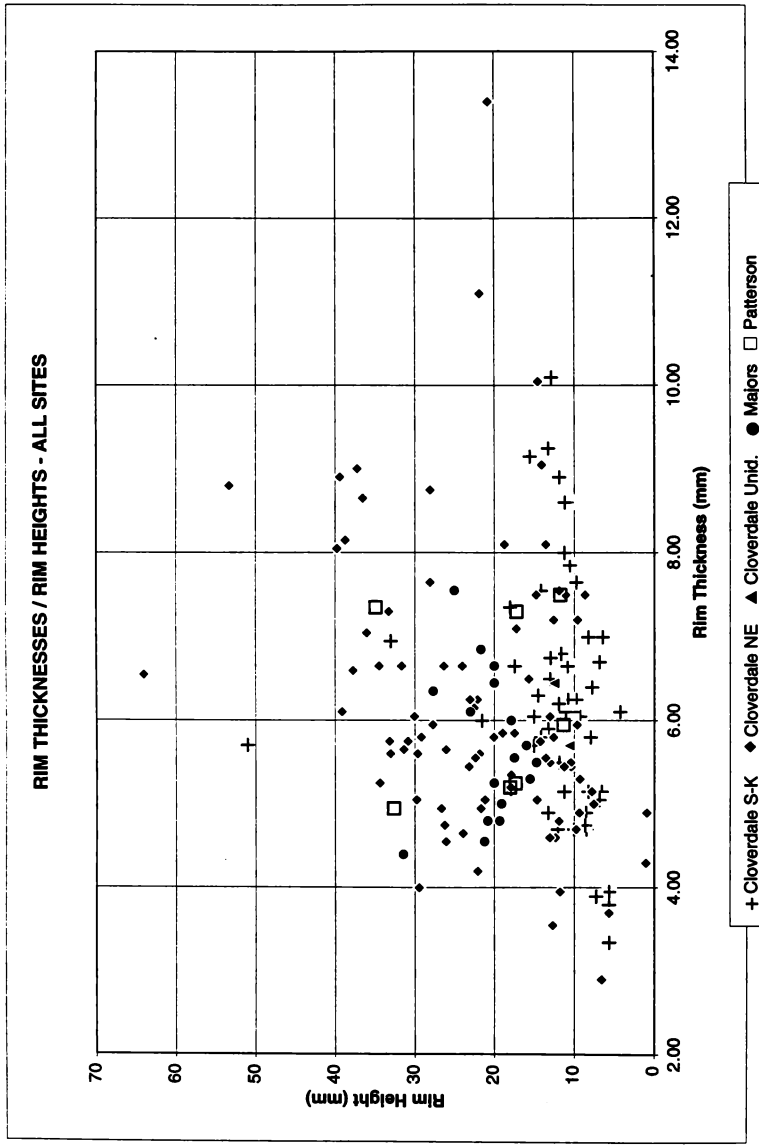


FIGURE 7.7. Scattergram of Rim Thicknesses and Rim Heights from All Sites

The rim thicknesses and rim heights from both the Majors and Patterson sites show a generally similar distribution to those from the Cloverdale site (Figure 7.7). However, vessels from the Majors site tend to cluster within the center of the Cloverdale site distribution. Most of the Majors site rims range between 4.4 mm to 7.6 mm (mean 5.8 mm) in thickness and 14.7 mm to 23.0 mm (mean 20.6 mm) in height. The Cloverdale rims have a greater range with thicknesses of 2.35 mm to 13.4 mm (mean 6.2 mm) and heights of 0.88 mm to 64.0 mm (mean 17.6 mm).

A comparison of the means indicates that rims at Cloverdale are thicker while those at Majors are higher. A Student's t-test was conducted on each variable to determine if the differences noted were significant (Table 7.12). In both cases the null hypothesis was not rejected, and therefore, the differences noted in the vessels from each site were not significant. The observed clustering was probably the result of the small sample size from the Majors site.

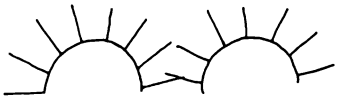
TABLE 7.12. T-Test of Rims - Cloverdale and Majors Sites

Thicknesses:	H_0 Cloverdale $\geq$ Majors	t = 1.2313
Heights:	H_0 Cloverdale $\leq$ Majors	t = -1.1535
critical t-value is 1.645 152 df @ .10 confidence level (Thomas 1988:508)		

Design Analysis

An analysis of body design motifs was conducted to establish connections between those used at the Cloverdale site with those from the Majors site. No designs appeared on the Class II sherds from the Patterson site. Eleven design types were established from the 38 sherds exhibiting body decoration -- 33 from the Cloverdale site and five from the Majors site. Design K refers to designs too fragmentary to be deciphered. The number of appearances of each design in the assemblages is listed in Table 7.13. Stylized illustrations of ten (A through J) of these designs appear in Figure 7.8

Nine of the identified designs appear in the Cloverdale assemblage. The Alternating Triangle (Design J), recently named Majors Opposed Diagonal by Scott (1995), is not among them. However, this is the only design to appear in the assemblage of the Majors site, its site type. The sherd on which Design G or Bands



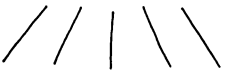
A -Sunburst

B - Angled Sunburst

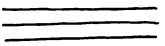
C - Nested Chevron

D - Ladders

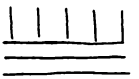
E - Sunburst / Ladders



F - Radiating Lines



G - Bands



H - Radiating Lines with Bands

I - Bands with Sun

J - Alternating Hatchered Triangles

FIGURE 7.8. Design Motifs

TABLE 7.13. Body Design Motifs

Design	n	Cloverdale n=33	Majors n=5
A - Sunburst	7	X	
B - Angled Sunburst	4	X	
C - Nested Chevrons	6	X	
D - Ladders	3	X	
E - Sunburst/Ladder	3	X	
F - Radiating Lines	1	X	
G - Bands	1	X	
H - Radiating w/Bands	2	X	
I - Bands and Sun	1	X	
J - Alternating Triangle	5		X
K - Undetermined	5	X	

appears is similar to a vessel from the Vaughn I site (23SN203) and is suggested to have Caddoan origins (Chapman 1980:141).

Many of the designs, or at least derivatives, from the Cloverdale site are illustrated in O'Brien's (1974) seriation of Steed-Kisker ceramics. Most of them fall within her Phase III and IV divisions with a later temporal range (no dates are provided). The Sunburst (Design A) and the Sunburst/Ladder (Design E) are rather ubiquitous and appear throughout the seriation. Unfortunately, O'Brien does not identify individual specimens or associated sites/collections upon which her seriation was built. This, as well as the idealized nature of her illustrations, makes direct motif comparisons difficult if not impossible.

One design that does not appear in the Steed-Kisker seriation by O'Brien is the Alternating, Hatchered-Triangles. She claims that predecessors of the design can be seen in those illustrated, but doesn't point out the possible ancestors. Scott finds the Alternating, Hatchered-Triangle motif in one of nine sites from which designs were illustrated for his analysis (Scott 1995:62). It is found as a complete design motif at 23PL44. A few other designs (from sites 23PL4, 23PL13, and 23CL106) may be either precursors or derivatives of the Alternating, Hatchered-Triangle, but no interceding designs leading to the alternating, hatchered-triangles are illustrated.

A design symmetry analysis was performed on the decorated sherds. Designs were sketched on a circular template to aid in determining repetition patterns (Figure 7.9). Table 7.14 lists the repetition patterns of ten sherds complete enough to be examined.

TABLE 7.14. Repetition of Body Design Motifs (n=10)

Design	Repetition	Design	Repetition
A - Sunburst (n=2)	8	E - Sunbrst/Ladder (n=1)	12
C - Nested Chevrons (n=4)	4	I - Bands and Sun (n=1)	4
D - Ladders (n=1)	8	J - Alter.Triangle (n=1)	16

It is likely the Ladders (Design D) motif is a variation of the Sunburst and hence is repeated eight times. The vessel with the Sunburst/Ladder motif (Design E) was outlined at a small scale by the potter which probably allowed for the 12 repetitions of the design. In total, the Alternating, Hatchered-Triangle motif is repeated 16 times, eight times in each direction, up and down. Motif repetition was conceivably included in the standard design repertory of those constructing the incised vessels.

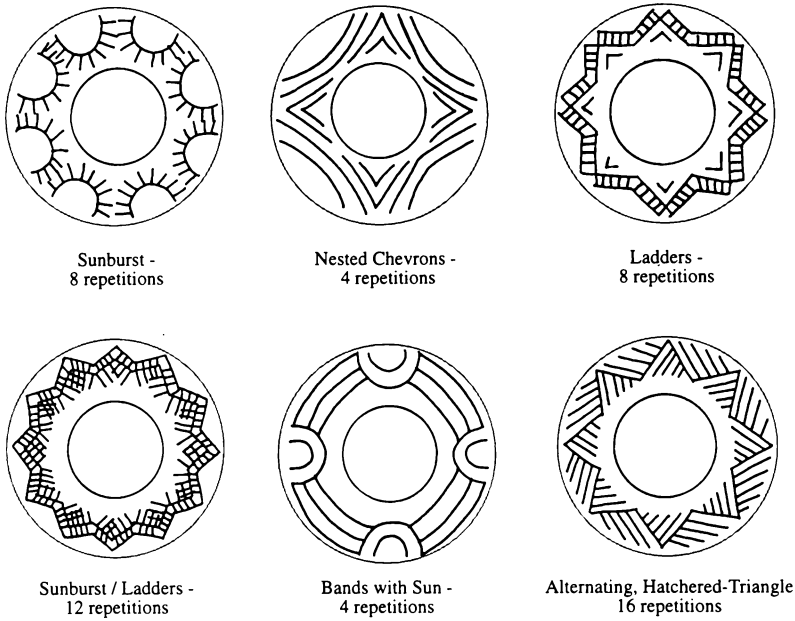


FIGURE 7.9. Design Repetition Patterns

The width of the incisions used to create the designs may provide further information regarding design development or origin. The width of design demarcations in ceramics from the Cloverdale site are relatively narrow, generally ranging from 1 mm to 3 mm. One sherd with grooves of 5 mm in width is atypical. It may be of extralocal origin based on the combination of lip modeling and design execution. Design incisions (or grooves) from the Majors site sherds tend to be wider ranging from 2 mm to 6 mm, slightly wider that those at Cloverdale. Although a formal analysis of the incision width was not conducted for this study, it may potentially provide information on stylistic canons used by the prehistoric potters.

Discussion

A summary of findings resulting from the analyses conducted are as follows:

- Attributes cross-cut designated types and therefore, cultural associations (smooth surfaces, appendages, direct rims, flared rims, plain rims, globular shapes)
- Principal components analysis revealed two significant factors accounting for a cumulative 58% of vessel variation
- Significant factor scores for both Factor I (body diameters and vertical tangencies) and Factor II (rim thicknesses and heights) cross-cut cultural associations
- Body diameters and vertical tangencies are positively correlated
- Vessels from all three sites show similar distribution regarding factor variables
- Designs motifs and repetition patterns are not the same at the Cloverdale and Majors sites.

The results of the analyses conducted on the pottery from the three sites reveal a blending of ceramic characteristics. Similar attributes are found in the ceramics of pre-established types. Globular jar shapes, smooth surfaces, the presence or absence of appendages, direct and flared rims, and lack of rim or body decoration appear in both grit- and shell-tempered ceramics. The combination of some of these characteristics may have had functional purposes. At the same time the use of more distinctive attributes (in terms of the ceramic types) such as rim decoration and incised body design may not have been important in terms of technological function. What explains the tempering differences is difficult to say without further analysis although factors such as thermal shock resistance, mechanical strength (in terms of crack initiation, crack propagation and shatter resistance), porosity, and thermal conductivity may be significant (Braun 1983, Bronitsky and Hammer 1986, Schiffer and Skibo 1987, Steponaitis 1983). Similarly, surface finishes may have had functional purposes as well (Schiffer et. al. 1994).

Comparisons of attributes found at all three sites reveal the disappearance of the carinated vessel shape and rolled and S-shaped rims. At the Cloverdale site the carinated vessel form seems to be associated with shell tempering and incised body decorations. At the Majors and Patterson sites, globular jars or bowls and, in some instances, incised body decoration are associated with shell tempering as well as grit

tempering. For some reason the carinated vessel form is not used in the more northern sites although shell tempering and incised body decoration is present. Since both the Majors and Patterson sites are spatially and possibly, temporally separate from the Cloverdale site, we cannot say if the vessel form change is a reflection of these distances or other phenomena such as function, without further study.

The rolled rim may have been so similar to the direct rim, that it fell into disuse or evolved into a single style. Blakeslee and Caldwell (1979) do not acknowledge it as a rim type, and thus it is difficult to make any comments in reference to their seriation. S-shaped rims are generally not common; and, their absence at the Majors and Patterson sites is not noteworthy (Blakeslee and Caldwell 1979:88).

Differences in ceramics between the Majors and Patterson site are minimal but this could be influenced by the small sample sizes. One possibly significant difference is the presence of body decoration solely at the Majors site and the presence of rim decoration only at the Patterson site. Both characteristics follow Blakeslee and Caldwell's (1979) seriation in terms of temporal and spatial distribution, but why they are occurring in isolation of each other is difficult to determine.

The principal components analysis indicates the importance of body diameters and points of vertical tangency (factor I) and rim heights and rim thicknesses (factor II) in accounting for the variation seen in the vessels at the Cloverdale site. Significant scores on both factors cross-cut ceramic types. The metric data do not suggest a differentiation of vessels but rather hint at a continuum of shapes and sizes.

Vessel profiles do change in the more northern Majors and Patterson sites. The vessels tend to be more globular in shape and larger in body diameter. These changes may be ideological (in terms of existing artistic canons) or functional due to altering food processing methods. The rim heights and thicknesses of all three sites show a similar distribution as already discussed.

CHAPTER 8 - CONCLUSION

Attribute and principal component analysis of the pottery in the ceramic assemblages of the Cloverdale, Majors, and Patterson sites demonstrate a blending of ceramic characteristics and vessel forms. Several of the attributes have been used to define ceramic wares, types, and varieties; these in turn are associated with the specific archaeological groups under investigation -- the Nebraska and Steed-Kisker phases. Whether the blending of the attributes analyzed indicates the presence of a dual ceramic tradition carried on by one social group or if two ceramic traditions are being practiced by two distinct peoples is difficult to determine with the ambiguous results of this study. The absence of clear cut differences, however, is intriguing and may be sufficient impetus for further study.

More confirming evidence may be available by a paste compositional analysis to determine if the same raw materials were used for construction of the vessels. A tripartite analysis -- attribute, design, and paste composition -- approach was used with success by Zedeño (1994) who examined the ceramic traditions of the Chodistaas Pueblo, Arizona. By investigating all three aspects of the pottery, she was able to determine when local clays were used for ceramic production. In a similar manner, paste analysis of Cloverdale pottery may not only point to the raw material source but may also indicate the practice of a dual tradition.

The examination of residues on vessel interiors may also provide clues to the practice of dual traditions. Allen (1992:139) in studying ceramic production among the Iroquois, noted the use of certain vessels for teas and others for stews. While the Iroquoian vessels are similar to each other with only minor size differences, the notion of different pots for different foodstuffs may be applicable to the Cloverdale assemblage. Certain kinds of vessels could have been reserved for certain foods or medicines, whether for functional or ideological reasons.

The mixture of ceramic attributes noted in this study calls into question the validity of the developed types and the separation of the pottery producers and users (assuming they are one in the same) into distinct groups. At the Cloverdale site, the ceramics are easily typed using the existing typologies because the assemblage can be readily divided based on aplastic inclusions. Based on the types, the pottery can then be affiliated with specific cultural groups. That these cultural divisions are based on association with the specific types creates a vicious cycle of "which-came-first" and certainly taints the interpretation of attribute and ethnic affiliation.

An example of potential difficulties can been drawn from almost 50 direct rim sherds from the Cloverdale site which are typed either McVey, Debilka, and Platte Valley Plain. The specimens are similar and vary only in temper materials or subtleties of vessel shape, making intuitive separation problematic. Dividing and typing these sherds based on the aplastic inclusions alone, while useful in some circumstances, points to the artificial nature of such categories.

Despite the manufactured nature of ceramic types, they can be useful for general comparisons. However, the typologies used for this study, particularly those developed for the Nebraska phase, are in need of reworking. Thought to be aberrations, shell-tempered vessels were excluded from earlier typologies (Gunnerson 1952) and remain unnamed in Blakeslee and Caldwell's (1979) volume, even though the presence of shell-tempered vessels, whatever their origin, has been noted throughout investigations of Nebraska phase sites (Anderson 1960, Billeck 1992, Hill and Cooper 1937, Ives 1955, McNerney 1987, Scott 1995, Strong 1935).

The artificial nature of ceramic typologies also applies to group or cultural divisions. Specifically the use of "phase" when referring to populations of the area may be misleading. The usefulness of cultural categories for ease of comparison and discussion is readily acknowledged, but rigid adherence to the taxonomic systems (McKern 1939, Willey and Phillips 1958) can sometimes be detrimental.

The notion that the groups in the area during Middle Ceramic times were at the band or family level (rather than tribal) of organization (Service 1962) is intriguing and has ramifications on not only how the groups should be categorized, but also on interpretations of their interactions with one another (Beck 1995, Blakeslee and Caldwell 1979, Roper 1995). As noted by Beck (1995:112-113), the use of phase "...may give the researcher a false sense of social cohesion over a fairly large distance..." and is probably not on the same scale as the band/family social unit.

The effect of band-level organization on social interactions in the Central Plains may be significant for several reasons. Band-level groups develop social networks to minimize subsistence risks. These networks also serve to diffuse ceramic traits (Beck 1995:117). Beck (1995:117) noted, however, that this "...would also lead to geographic clustering... The result would be a continuum of changing proportions of pottery styles across the region."

Bands are typically unified through marriage ties, which are often exogamous (Service 1962:60,111). This marriage pattern would provide a mechanism for the

diffusion of ceramic styles and technologies especially. Design styles can be passed on through visual inspection alone, whereas the transmission of technological knowledge requires a "teaching framework" and direct contact with the producer (Schiffer and Skibo 1987:597, Zedeño 1994:33). The appearance of shell-tempered ceramics throughout the Central Plains, if it is not proved to be tradeware, would then imply the presence of one who understood the methods of producing such a ware.

If the notion of a ceramic continuum and corresponding clustering is valid (Beck 1995), evidence of such should be reflected in the archaeological record. That shell-tempered pottery appears in the Central Plains, where grit tempering is thought to be the norm has been discussed. In contrast, however, the appearance of grit-tempered pottery in areas where shell-tempering is typical, specifically at Steed-Kisker sites, is not mentioned. Why this is so is not evident. It may be due to a complete absence of such vessels, but may also be the result of sampling and collecting bias. It is difficult to believe that influence is unidirectional and no grit-tempered pottery exists in Steed-Kisker sites. One might expect to see more grit-tempered vessels in sites interfacing with other Central Plains tradition complexes, as seen in the Cloverdale site.

The body design motifs seen on the Cloverdale ceramics are similar to those observed from Steed-Kisker sites. Their repetition around the vessel circumference seems to conform in part to the quadripartite sectioning mentioned by Pauketat and Emerson (1991). Designs are repeated in multiples of four and could conceivably be done so in an attempt to comply with a specific mental template -- an extension of the cross-in-circle scheme. The designs themselves could be versions of the sunburst motif. The ladders with or without radiating lines, the nested chevrons with no radiating lines, and the radiating lines alone all use elements reminiscent of the basic sunburst design.

Direct correlations between the proposed ideological meanings of the Ramey Incised pottery of Cahokia and the Steed-Kisker Incised ceramics of the Cloverdale site cannot be drawn (Pauketat and Emerson 1991). Even if one assumes Cahokian origins for the Steed-Kisker peoples and Steed-Kisker Incised pottery, it is probable that the significance of the design schemes loses relevance at the Cloverdale site. As noted by several researchers (O'Brien 1978a:71, 1988:28, Wedel 1943) the political and social structures evident at Cahokia are not present in Steed-Kisker sites, and therefore the need to legitimize elite authority would be non-existent, even though the symbolic stylistic canons are still maintained. Alternately, the designs may have been part of a

pervasive design repertoire which cross-cut artifactual categories (for example basketry, quillworking). Their use, whether or not there were ideological connotations, may have been extensions of designs seen on other medium (DeBoer 1991:148).

The reasons for using incised body designs at the Cloverdale and Majors site may have changed over time and/or space and may be related to band-level organization. Two theories regarding artifact styles are important here. The information exchange theory maintains that style conveys information on group identity, integration, and boundary maintenance (Binford 1962:220, Wobst 1977, Hill 1985:366). Important is the proximity of the target audience -- a middle ground is necessary (Wobst 1977:323-324). If the target audience is too close, the meaning is already known and the symbols redundant. If it is too far, the meaning may not be understood or decoded. The social interaction theory holds that style has no function and is merely taught or communicated to those in interactive proximity (Hill 1985:364, Plog 1983:126). The degree of similarity is directly related to the amount of social interaction.

It is suggested that both theories may have been at play regarding the incised body designs. The designs seen at the Cloverdale and Steed-Kisker sites were probably used to convey some meaning, at least as used by the originating group. Pauketat and Emerson's (1991) order-of-the-cosmos theory comes to mind if Cahokian origins are surmised. The distance from the design-originating group may have been small invalidating the need for communicative symbols, due to social or ideological changes, or it may have been too great, leading to an inability to understand the message being conveyed.

The band-level organization may have negated the need for over-arching symbolic systems necessary in tribal- or chiefdom-level societies where the designs may have originated. The proposed Mississippian origins for the designs (and pottery in general) implies corresponding higher levels of social structures present in those societies and the embedded control mechanisms (O'Brien 1993, Pauketat and Emerson 1991)). The use of the designs in the "Steed-Kisker area" where the social structures were different, may no longer have been necessary or may have had entirely different meanings.

Conversely, the alternating, hatchered-triangle motif may have been diffused, with no particular meaning attached, to those within social proximity. The knowledge of shell-tempered-vessel production, where applicable, must be assumed to have existed prior to or concomitant with the design introduction. A spatial and temporal analysis of

the distribution of this motif across the Plains may validate this argument.

An understanding of trading practices and the patterns of migration and movements of Central Plains populations is necessary when evaluating the distribution of design motifs. The timing, proportion, and extent to which the populations expanded and contracted (Roper 1995), or fluoresced in one area and moved to another (Bozell and Ludwickson 1994) may be important factors in design diffusion. If the vessels are not of local origins, trading practices are obvious factors in their distribution.

While a definitive statement regarding the existence of a dual ceramic tradition cannot be made based on this study alone, the results are interesting and will hopefully lead to further research. Consideration of the Central Plains populations (including those labeled Nebraska and Steed-Kisker phase) as band-level societies has merit and will undoubtedly effect how social interactions, the transferral of knowledge, and artifact styles are interpreted. Correspondingly, resolutions regarding social organization may lead to the necessary re-examination of the classificatory terms used for the Central Plains archaeological complexes during the late prehistoric period.

This study examined ceramics of the Nebraska and Steed-Kisker phases to determine if the pottery from the two complexes was indeed distinct as is implied by current ceramic typologies. Analyses of attribute quantifications and principal components of the metric data demonstrate that many characteristics cross-cut the ceramic classifications, and by extension, their associated cultural affiliations. The lack of a clear-cut segregation of the ceramics indicates that the presence of a dual ceramic tradition is a distinct possibility. Rather than separate ceramic traditions being practiced by two separate populations, there may be a single group producing two kinds of pottery. The confirmation of this interpretation would warrant the reanalysis of the classification of Nebraska and Steed-Kisker phases as two distinct groups, and perhaps an evaluation of the basis on which Central Plains groups in general are defined and categorized. At the very least, we must consider the possibility of the existence of subphases (perhaps corresponding to ceramic clusters), especially in interface areas of the Central Plains complexes which have been overlooked in the past. In order to further our understanding of the prehistoric cultural dynamics in the Central Plains, it is necessary to critically examine past frameworks and open ourselves to new possibilities.

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APPENDIX A.1.

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A02179.001/89		x		x			x			x
A02179.002/89		x			x		x			x
A02179.003/89			x	x		x			x	
A02179.004/89		x		x			x			x
A02179.006/89			x		x		x			x
A02179.007/89			x		x		x			x
A02179.008/89		x			x	x				x
A02179.009/89			x		x		x			x
A02179.010/89		x		x		x				x
A02179.011/89		x		x		x			x	
A02179.012/89			x		x		x			x
A02179.013/89	x				x		x			x
A02179.014/89		x			x		x			x
A02179.015/89		x		x		x			x	
A02179.016/89		x		x			x			x
A02179.017/89		x		x		x			x	
A02179.018/89		x		x			x		x	
A02179.019/89			x		x		x			x
A02179.020/89		x		x			x			x
A02179.021/89		x		x		x			x	
A02179.022/89		x		x		x			x	
A02179.023/89		x		x		x				x
A02179.024/89		x		x		x			x	
A02179.025/89		x		x		x				x
A02179.026/89		x			x		x			x
A02179.027/89		x		x		x				x
A02179.028/89		x		x		x				x
A02179.029/89			x		x		x			x
A02179.030/89		x			x		x			x
A02179.031/89		x		x		x			x	
A02179.031/89		x		x		x			x	
A02179.032/89	x			x			x			x
A02179.033/89	x			x		x			x	
A02179.034/89		x		x		x			x	
A02179.035/89	x			x			x			x
A02179.036/89			x		x		x			x
A02179.037/89		x		x		x			x	
A02179.037/89		x		x		x			x	
A02179.038/89		x			x		x			x
A02179.039/89		x		x			x		x	
A02179.042/89		x		x			x		x	
A02179.042/89		x		x			x		x	
A02179.043/89		x		x		x			x	
A02179.044/89		x			x		x			x
A02179.045/89			x		x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A02179.046/89		x			x		x			x
A02179.047/89		x		x		x			x	
A02179.047/89		x		x		x				x
A02179.048/89		x		x		x			x	
A02179.049a/89		x			x	x				x
A02179.049/89		x			x		x		x	
A02179.050/89		x			x		x			x
A02179.051/89		x		x		x				x
A02179.052/89		x			x		x			x
A02179.053/89		x			x		x			x
A02179.054/89			x		x		x			x
A02179.055/89			x		x		x			x
A02179.056/89		x		x		x			x	
A02179.056/89		x		x		x				x
A02179.057/89		x			x		x			x
A02179.058/89		x			x		x			x
A02179.059/89			x	x			x		x	
A02179.060/89		x		x		x				x
A02179.061/89			x		x			x		x
A02179.062/89		x			x		x			x
A02179.063/89			x		x		x			x
A02179.064/89		x			x	x				x
A02179.065/89		x			x	x				x
A02179.066/89		x			x	x				x
A02179.066/89	x				x	x				x
A02179.067/89		x			x	x				x
A02179.069/89		x			x		x			x
A02179.070/89		x			x	x				x
A02179.071/89		x			x	x				x
A02179.072/89		x			x		x		x	
A02179.073/89		x			x	x				x
A02179.074/89		x		x			x		x	
A02179.075/89			x		x		x			x
A02179.076/89		x		x		x			x	
A02179.076/89			x		x		x			x
A02179.077/89		x			x	x				x
A02179.078/89		x			x	x				x
A02179.079/89			x		x		x			x
A02179.080/89			x		x		x			x
A02179.081/89		x			x		x		x	
A02179.082/89		x			x	x				x
A02179.083/89		x		x		x				x
A02179.084/89		x			x	x				x
A02179.086/89			x		x		x			x
A02179.087/89		x		x		x			x	
A02179.087/89		x			x	x				x
A02179.088/89		x			x	x				x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A02179.089/89		x			x	x				x
A02179.089/89			x	x		x				x
A02179.090/89		x		x		x			x	
A02179.091/89		x			x		x		x	
A02179.092/89		x			x		x			x
A02179.093/89		x		x		x				x
A02179.094/89		x			x	x				x
A02179.095/89		x			x	x				x
A02179.096/89			x		x		x			x
A02179.098/89		x		x			x			x
A02179.099/89		x		x			x		x	
A02179.100/89		x			x		x		x	
A02179.101/89		x			x	x				x
A02179.102/89		x		x		x			x	
A02179.103/89		x		x			x		x	
A02179.104/89		x		x		x			x	
A02179.105/89		x			x	x				x
A02179.107/89		x			x		x			x
A02179.108/89		x		x		x			x	
A02179.109/89		x			x		x			x
A02179.110/89		x		x		x				x
A02179.111/89		x			x		x		x	
A02179.112/89		x			x		x			x
A02179.113/89		x			x		x			x
A02179.114/89		x			x	x				x
A02179.115/89		x			x		x			x
A02179.116/89		x			x	x				x
A02179.116/89		x		x		x				x
A02179.117/89		x		x		x				x
A02179.118/89		x			x		x			x
A02179.119/89		x			x	x				x
A02179.120/89		x			x	x				x
A02179.121/89		x			x	x				x
A02179.123/89		x			x		x			x
A02179.124/89		x		x		x				x
A02179.125/89		x			x		x			x
A02179.126/89			x		x		x			x
A02179.127/89		x			x	x				x
A02179.127/89		x			x	x				x
A02179.128/89		x			x	x				x
A02179.130/89		x			x		x			x
A02179.131/89		x			x	x				x
A02179.132/89		x			x	x				x
A02179.133/89		x			x	x				x
A02179.134/89		x			x		x		x	
A02179.135/89		x		x		x			x	
A02179.136/89		x			x	x				x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A02179.137/89		x			x	x				x
A02179.138/89		x			x	x				x
A02179.138/89			x		x		x			x
A02179.139/89		x			x		x			x
A02179.140/89		x			x	x				x
A02179.141/89		x			x	x				x
A02179.142/89		x			x	x				x
A02179.143/89		x			x	x				x
A02179.144/89		x			x		x			x
A02179.145/89.		x		x		x				x
A02179.146/89		x		x		x				x
A02179.147/89		x			x	x				x
A02179.148/89		x			x		x			x
A02179.149/89		x			x	x				x
A02179.150/89		x			x		x			x
A02179.151/89			x		x		x			x
A02179.152/89		x			x	x				x
A02179.153/89		x			x		x			x
A02179.154/89		x			x		x			x
A02179.155/89		x			x		x			x
A02179.156/89		x			x	x				x
A02179.157/89	x				x		x			x
A02179.158/89		x			x		x			x
A02179.159/89		x			x		x		x	
A02179.160/89		x			x		x			x
A02179.161/89		x			x		x			x
A02179.162/89		x			x	x				x
A02179.163/89		x			x	x				x
A02179.164/89		x			x		x		x	
A02179.165/89		x			x		x			x
A02179.167/89		x			x		x			x
A02179.168/89		x			x	x				x
A02179.169/89		x		x		x				x
A02179.170/89		x			x	x				x
A02179.171/89		x			x	x				x
A02179.172/89	x			x		x				x
A02179.173/89		x		x		x				x
A02179.173/89		x			x		x			x
A02179.174/89		x			x	x				x
A02179.175/89		x			x		x			x
A02179.176/89		x			x	x				x
A02179.177/89			x		x		x			x
A02179.178/89		x			x	x				x
A02179.179/89		x			x		x			x
A02179.180/89		x		x		x			x	
A02179.181/89		x			x	x				x
A02179.182/89		x			x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A02179.183/89		x			x	x				x
A02179.184/89			x		x		x			x
A02179.185/89		x		x		x				x
A02179.186/89		x			x		x			x
A02179.187/89		x			x		x			x
A02179.188/89		x		x		x			x	
A02179.189/89		x			x		x			x
A02179.190/89		x			x	x				x
A02179.191/89		x			x	x				x
A02179.192/89		x		x		x			x	
A02179.193/89		x			x		x			x
A02179.194/89		x			x		x			x
A02179.196/89		x			x		x			x
A02179.197/89		x		x		x				x
A02179.198/89		x		x		x				x
A02179.198/89		x		x		x				x
A02179.199/89			x	x		x			x	
A02179.200/89		x		x		x			x	
A02179.201/89		x			x	x				x
A02179.202/89		x			x		x			x
A02179.203/89		x			x		x			x
A02179.204/89		x		x		x				x
A02179.205/89		x			x		x			x
A02179.206/89		x			x		x			x
A02179.207/89		x			x		x			x
A02179.208/89		x			x	x				x
A02179.209/89		x		x		x			x	
A02179.210/89		x			x	x			x	
A02179.211/89		x			x	x				x
A02179.212/89		x			x		x			x
A02179.213/89		x			x		x			x
A02179.214/89		x		x		x				x
A02179.215/89		x			x	x				x
A02179.216/89		x			x	x				x
A02179.217/89		x			x		x			x
A02179.218/89		x			x	x				x
A02179.219/89		x			x	x				x
A02179.220/89		x			x	x				x
A02179.221/89		x		x		x				x
A02179.222/89		x		x		x			x	
A02179.223/89			x	x			x			x
A02179.224/89		x			x	x			x	
A02179.225/89		x			x		x			x
A02179.226/89	x				x		x			x
A02179.227/89			x		x		x			x
A02179.228/89		x		x			x		x	
A02179.230/89		x			x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A02179.231/89		x		x		x			x	
A02179.232/89		x		x		x				x
A02179.233/89	x				x		x			x
A02179.234/89		x		x		x			x	
A02179.235/89	x				x		x			x
A02179.236a/89			x	x			x		x	
A02179.236/89			x		x		x		x	
A02179.237/89		x			x		x		x	
A02179.238/89		x			x		x			x
A02179.239/89	x				x		x			x
A02179.240/89		x		x			x		x	
A02179.241/89	x				x		x			x
A02179.242/89		x			x		x		x	
A02179.243/89			x		x		x			x
A02179.244/89			x	x		x				x
A02179.245/89			x		x		x			x
A02179.246/89			x		x	x				x
A02179.247/89			x		x		x			x
A02179.248/89		x			x		x		x	
A02179.249/89		x			x		x			x
A02179.250/89		x		x		x			x	
A02179.251/89			x		x		x			x
A02179.252/89		x		x		x			x	
A02179.253/89			x		x	x				x
A02179.256/89			x		x		x			x
A02179.257/89			x		x		x			x
A02179.258/89			x		x		x			x
A02179.259/89	x				x	x				x
A02179.260/89		x			x		x		x	
A02179.261/89		x			x		x			x
A02179.262/89		x			x		x			x
A02179.263/89		x			x	x				x
A02179.264/89		x			x		x			x
A02179.265/89	x				x		x			x
A02179.266/89			x		x		x			x
A02179.267/89			x		x		x			x
A02179.268/89	x				x		x			x
A02179.269/89		x		x		x			x	
A02179.270/89		x			x		x			x
A02179.271/89		x			x		x			x
A02179.272/89		x			x	x				x
A02179.273/89		x			x	x				x
A02179.274/89	x				x		x			x
A02179.275/89		x			x		x			x
A02179.276/89	x				x		x		x	
A02179.277/89		x			x		x			x
A02179.278/89		x			x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A02179.279/89		x			x		x			x
A02179.280/89		x			x		x			x
A02179.281/89		x			x	x			x	
A02179.282/89		x		x		x			x	
A02179.283/89		x			x		x		x	
A02179.284/89		x			x	x				x
A02179.285/89		x			x	x			x	
A02179.286/89		x			x		x			x
A02179.287/89		x			x		x			x
A02179.288/89	x				x	x				x
A02179.289/89		x			x		x			x
A02179.290/89		x			x	x			x	
A02179.291/89		x			x		x			x
A02179.292/89		x		x			x		x	
A02179.293/89		x			x		x		x	
A02179.294/89		x			x	x				x
A0946/89			x		x			x		x
A0953/89			x		x		x			x
A0961/89			x		x		x		x	
A0966/89			x		x		x		x	
A0967/89			x		x		x			x
A0970/89		x			x		x			x
A0972/89		x			x		x			x
A0974/89		x			x		x			x
A0980/89			x		x		x			x
A0985/89		x			x		x			x
A0986/89			x		x		x			x
A0988/89		x			x		x			x
A0990/89			x		x		x			x
A0991/89			x		x		x			x
A0992/89			x		x		x			x
A0993/89			x		x		x			x
A0995/89			x		x		x			x
A0996/89		x			x		x			x
A0997/89		x			x		x			x
A1000/89			x		x		x			x
A1001/89			x		x		x			x
A1002/89		x			x		x			x
A1003/89			x		x		x			x
A1003/89			x		x		x			x
A1004/89			x		x		x			x
A1005/89			x		x		x			x
A1006/89		x		x		x				x
A1007/89		x			x	x				x
A1008/89			x		x		x			x
A1009/89			x		x		x			x
A1010/89		x			x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1011/89			x		x		x			x
A1012/89	x				x		x			x
A1013/89			x		x		x			x
A1014/89			x		x		x			x
A1016/89	x				x		x			x
A1017/89			x		x		x			x
A1018/89		x			x		x			x
A1019/89			x		x		x			x
A1020/89			x		x		x			x
A1022/89			x		x		x			x
A1024/89			x		x		x			x
A1024/89			x		x		x			x
A1025/89			x		x		x			x
A1026/89		x			x		x			x
A1027/89		x			x		x			x
A1030/89		x			x		x			x
A1031/89			x		x		x			x
A1031/89			x		x		x			x
A1032/89			x		x		x			x
A1033/89	x				x		x			x
A1035/89			x		x		x		x	
A1036/89			x		x		x			x
A1037/89			x		x		x			x
A1038/89		x			x		x			x
A1039/89			x		x		x			x
A1039/89		x			x		x			x
A1040/89		x			x		x			x
A1041/89			x		x		x			x
A1042/89	x				x		x			x
A1042/89	x				x		x			x
A1043/89		x			x		x			x
A1046/89			x		x		x			x
A1047/89		x			x		x			x
A1048/89		x			x		x			x
A1054/89			x		x		x		x	
A1056/89			x		x		x			x
A1060/89		x			x		x			x
A1066/89			x		x		x			x
A1068/89			x		x		x			x
A1069/89			x		x		x			x
A1071/89		x			x		x			x
A1071/89		x			x		x			x
A1072/89		x			x		x			x
A1073/89		x			x		x			x
A1076/89	x				x		x			x
A1077/89			x		x		x			x
A1080/89		x			x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1081/89		x			x		x			x
A1082/89			x		x		x			x
A1084/89			x		x		x			x
A1085/89		x			x		x			x
A1086/89			x		x		x			x
A1087/89			x		x		x			x
A1089/89		x			x		x			x
A1090/89		x			x		x			x
A1091/89		x			x		x			x
A1093/89			x		x		x		x	
A1095/89			x		x		x		x	
A1096/89			x		x		x		x	
A1098/89			x		x		x		x	
A1099/89			x		x		x		x	
A1100/89			x		x			x	x	
A1101/89			x		x		x		x	
A1102/89			x		x		x		x	
A1103/89			x		x		x		x	
A1104/89			x		x		x		x	
A1105/89			x		x		x			x
A1106/89			x		x		x		x	
A1107/89			x		x		x		x	
A1108/89			x		x		x		x	
A1109/89			x		x		x		x	
A1110/89			x		x		x		x	
A1111/89			x		x		x		x	
A1112/89			x		x		x		x	
A1113/89			x		x			x	x	
A1114/89			x		x		x		x	
A1115/89			x		x		x		x	
A1116/89			x		x		x			x
A1117/89			x		x		x			x
A1118/89			x		x		x		x	
A1119/89		x			x		x			x
A1120/89			x		x		x		x	
A1121/89		x			x		x			x
A1123/89		x			x		x		x	
A1124/89		x			x		x		x	
A1125/89			x		x		x		x	
A1127/89			x		x		x		x	
A1128/89			x		x		x		x	
A1130/89			x		x		x			x
A1141/89		x		x		x			x	
A1141/89		x			x		x			x
A1156/89			x		x			x		x
A1157/89			x		x			x		x
A1160/89			x		x			x		x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1210/89	x				x		x			x
A1211/89			x		x		x			x
A1211/89			x		x		x			x
A1212/89			x		x		x			x
A1214/89			x		x		x			x
A1215/89			x		x		x			x
A1216/89		x			x		x			x
A1217/89			x		x		x			x
A1220/89			x		x		x		x	
A1220/89			x		x		x			x
A1221/89			x		x		x		x	
A1221/89			x		x		x			x
A1222/89			x		x		x			x
A1222/89	x				x		x			x
A1223/89			x		x		x			x
A1224/89			x		x		x			x
A1225/89		x			x		x			x
A1225/89		x			x		x			x
A1227/89		x			x		x			x
A1228/89			x		x		x			x
A1231/89			x		x		x			x
A1231/89			x		x		x			x
A1232/89		x			x	x				x
A1233/89		x			x			x		x
A1233/89		x			x			x		x
A1236/89			x		x		x			x
A1238/89		x			x		x			x
A1241/89			x		x		x			x
A1242/89		x			x		x			x
A1242/89		x			x		x			x
A1243/89			x		x		x			x
A1243/89			x		x		x			x
A1244/89		x			x		x			x
A1245/89	x				x		x			x
A1245/89		x			x		x			x
A1246/89		x			x		x			x
A1246/89			x		x		x			x
A1250/89			x		x		x			x
A1252/89		x			x		x			x
A1253/89			x		x		x			x
A1254/89		x			x		x			x
A1254/89		x			x		x			x
A1265/89			x		x		x		x	
A1266/89	x				x			x		x
A1267/89			x		x		x			x
A1268/89			x		x		x		x	
A1269/89			x		x		x		x	

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1270/89			x		x			x	x	
A1271/89			x		x		x			x
A1272/89	x				x		x		x	
A1274/89			x		x		x		x	
A1275/89		x			x		x			x
A1275/89			x		x		x			x
A1277/89			x		x		x		x	
A1279/89			x		x		x			x
A1285/89			x		x		x		x	
A1287/89			x		x			x	x	
A1290/89			x		x		x		x	
A1291/89			x		x		x		x	
A1294/89		x			x		x			x
A1294/89			x		x		x			x
A1295/89	x				x		x			x
A1296/89			x		x		x		x	
A1296/89			x		x		x			x
A1299/89		x			x		x			x
A1300/89			x		x		x		x	
A1302/89		x			x		x		x	
A1304/89			x		x			x	x	
A1304/89			x		x			x		x
A1305/89		x			x		x		x	
A1306/89			x		x		x		x	
A1307/89			x		x		x			x
A1308/89			x		x		x			x
A1311/89			x		x		x		x	
A1312/89			x		x		x		x	
A1315/89		x			x		x			x
A1317/89			x		x		x			x
A1319/89		x			x		x			x
A1320/89			x		x		x		x	
A1321/89			x		x		x			x
A1325/89			x		x		x			x
A1327/89		x			x		x			x
A1328/89			x		x		x			x
A1334/89		x			x		x		x	
A1339/89		x			x		x			x
A1340/89		x			x		x		x	
A1342/89		x			x	x			x	
A1345/89		x		x			x		x	
A1352/89		x			x	x			x	
A1353/89		x			x		x		x	
A1354/89		x			x	x				x
A1369/89		x			x	x			x	
A1371/89		x			x	x			x	
A1372/89		x			x	x			x	

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1375/89		x			x	x				x
A1378/89		x		x		x			x	
A1379/89		x		x		x				x
A1385/89		x			x	x			x	
A1391/89			x		x	x				x
A1394/89			x		x	x				x
A1396/89		x			x	x			x	
A1413/89	x				x		x			x
A1414/89			x	x		x				x
A1415/89		x		x		x			x	
A1416/89		x			x	x				x
A1417/89		x		x		x				x
A1418/89		x		x		x				x
A1419/89		x		x		x				x
A1420/89		x		x		x			x	
A1421/89		x		x		x				x
A1422/89		x		x		x				x
A1423/89		x		x		x				x
A1424/89		x			x		x			x
A1425/89		x			x		x			x
A1426/89	x				x		x			x
A1427/89	x				x		x			x
A1428/89	x			x		x			x	
A1429/89		x			x	x			x	
A1430/89	x				x		x		x	
A1431/89		x		x		x			x	
A1432/89		x			x	x				x
A1433/89		x		x		x				x
A1434/89		x			x	x				x
A1435/89			x		x	x				x
A1436/89		x			x	x				x
A1437/89		x		x		x				x
A1439/89		x			x		x			x
A1440/89		x			x		x		x	
A1441/89		x		x		x				x
A1442/89		x		x		x				x
A1444/89		x			x	x			x	
A1445/89		x		x			x		x	
A1446/89		x			x	x				x
A1446/89		x			x		x			x
A1447/89		x			x	x				x
A1448/89	x				x		x			x
A1449/89		x		x		x				x
A1450/89	x			x		x				x
A1451/89		x		x		x				x
A1452/89		x		x		x				x
A1453/89			x		x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1454/89	x			x		x				x
A1454/89	x			x		x				x
A1455/89		x			x		x			x
A1456/89		x		x		x			x	
A1457/89		x			x		x			x
A1458/89		x			x		x			x
A1459/89		x			x		x			x
A1460/89		x		x		x				x
A1462/89		x		x		x			x	
A1463/89		x		x		x				x
A1464/89		x		x		x				x
A1465/89		x		x		x			x	
A1466/89			x		x		x			x
A1467/89			x		x		x			x
A1468/89	x				x		x			x
A1469/89	x			x		x				x
A1470/89	x				x		x			x
A1471/89		x		x			x			x
A1472/89		x			x	x				x
A1473/89		x			x		x			x
A1475/89		x		x			x			x
A1476/89		x			x		x			x
A1477/89		x		x		x				x
A1478/89		x			x		x			x
A1479/89	x			x			x			x
A1480/89		x		x		x				x
A1481/89	x			x		x			x	
A1482/89	x			x			x			x
A1483/89			x		x		x			x
A1484/89	x			x		x				x
A1485/89		x			x	x				x
A1486/89	x			x			x			x
A1487/89		x		x		x				x
A1488/89		x			x	x				x
A1489/89		x		x		x				x
A1490/89		x		x		x				x
A1491/89		x		x		x				x
A1492/89		x			x		x			x
A1493/89		x		x			x		x	
A1494/89		x			x	x			x	
A1495/89		x			x		x			x
A1615/89		x		x		x				x
A1616/89		x			x	x				x
A1616/89			x		x	x				x
A1617/89		x			x	x				x
A1618/89		x			x	x				x
A1619/89		x			x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1619/89		x		x		x				x
A1620/89			x	x			x			x
A1621/89		x			x	x			x	
A1622/89		x			x		x			x
A1623/89		x		x		x				x
A1624/89		x		x		x				x
A1625/89			x		x		x			x
A1626/89		x			x	x				x
A1627/89		x		x		x				x
A1628/89		x			x	x				x
A1629/89		x		x			x			x
A1630/89		x			x		x			x
A1631/89		x			x	x				x
A1632/89		x		x		x				x
A1634/89		x		x		x			x	
A1635/89		x			x	x				x
A1636/89		x			x	x				x
A1637/89	x				x		x			x
A1639/89		x			x		x			x
A1639/89		x			x	x				x
A1640/89		x			x	x				x
A1641/89		x		x		x				x
A1642/89		x			x		x			x
A1643/89		x			x		x			x
A1644/89			x		x		x			x
A1645/89			x		x		x			x
A1647/89		x		x		x				x
A1648/89		x			x	x				x
A1649/89		x			x		x			x
A1650/89		x			x	x				x
A1651/89			x		x		x			x
A1652/89			x		x		x			x
A1653/89		x			x	x				x
A1654/89		x			x	x				x
A1655/89		x			x		x			x
A1656/89	x				x	x				x
A1657/89		x		x		x				x
A1658/89	x				x		x			x
A1659/89		x		x		x				x
A1660/89		x			x	x				x
A1661/89		x			x		x			x
A1662/89		x			x	x				x
A1663/89		x		x		x				x
A1665/89		x		x		x				x
A1666/89		x			x	x				x
A1667/89		x			x	x				x
A1669/89		x		x		x				x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1670/89		x			x	x				x
A1671/89		x			x	x				x
A1672/89	x				x		x			x
A1673/89		x			x	x				x
A1674/89		x		x			x			x
A1675/89		x			x	x			x	
A1676/89		x			x		x			x
A1677/89		x		x		x				x
A1678/89		x			x	x				x
A1679/89		x			x	x				x
A1680/89		x			x		x			x
A1681/89	x				x		x			x
A1682/89		x			x	x				x
A1683/89		x			x	x				x
A1685/89		x		x		x				x
A1687/89		x			x	x				x
A1688/89		x		x			x			x
A1689/89		x			x	x				x
A1690/89		x			x	x				x
A1692/89		x		x		x				x
A1694/89		x			x	x				x
A1695/89		x			x	x				x
A1697/89		x		x		x				x
A1698/89			x		x	x				x
A1699/89		x			x	x				x
A1700/89		x			x	x				x
A1701/89	x				x	x				x
A1702/89		x		x		x				x
A1707/89		x		x		x				x
A1708/89		x			x	x				x
A1709/89		x			x	x				x
A1710/89		x			x	x				x
A1711/89		x		x			x		x	
A1712/89		x		x		x			x	
A1713/89		x		x		x			x	
A1714/89		x			x		x		x	
A1715/89		x		x		x			x	
A1716/89		x		x		x			x	
A1717/89		x		x			x		x	
A1718/89		x		x		x			x	
A1719/89		x		x			x		x	
A1720/89	x			x			x		x	
A1721/89		x			x		x		x	
A1722/89		x		x		x			x	
A1723/89		x			x	x				x
A1725/89		x			x		x		x	
A1726/89		x		x			x		x	

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1727/89		x		x		x				x
A1728/89		x			x		x			x
A1729/89		x			x	x			x	
A1729/89		x		x			x			x
A1730/89		x		x		x				x
A1731/89		x			x	x				x
A1732/89			x		x		x			x
A1733/89		x			x		x			x
A1734/89		x			x		x		x	
A1735/89		x			x		x			x
A1736/89		x			x	x			x	
A1738/89		x		x			x		x	
A1740/89		x		x			x			x
A1742/89		x		x			x		x	
A1743/89		x		x		x			x	
A1743/89		x		x		x			x	
A1744/89		x		x		x				x
A1745/89		x			x		x		x	
A1746/89		x		x			x		x	
A1747/89		x		x		x			x	
A1748/89		x		x			x		x	
A1749/89			x		x	x			x	
A1750/89		x			x	x			x	
A1751/89		x			x		x			x
A1752/89		x			x	x				x
A1754/89		x			x		x			x
A1755/89		x		x		x			x	
A1756/89		x		x			x		x	
A1761/89		x		x		x			x	
A1762/89		x		x			x		x	
A1765/89		x		x		x			x	
A1767/89		x		x		x			x	
A1768/89		x			x		x		x	
A1769/89	x			x			x		x	
A1771/89		x			x	x				x
A1772/89		x			x		x			x
A1773/89		x		x		x				x
A1774/89		x		x		x				x
A1775/89		x			x		x			x
A1779/89		x		x		x				x
A1781/89		x			x	x				x
A1782/89		x			x	x				x
A1783/89	x			x			x		x	
A1784/89		x			x		x			x
A1785/89		x		x		x			x	
A1786/89		x		x		x			x	
A1787/89		x		x		x			x	

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1788/89		x		x		x				x
A1789/89		x		x		x				x
A1790/89		x			x		x		x	
A1791/89	x				x	x				x
A1794/89	x			x			x		x	
A1795/89	x			x		x			x	
A1796/89		x		x		x			x	
A1797/89	x			x		x			x	
A1798/89		x		x		x				x
A1799/89		x		x		x			x	
A1800/89		x		x		x				x
A1801/89		x		x		x			x	
A1802/89		x		x		x			x	
A1803/89		x			x	x			x	
A1804/89		x		x		x			x	
A1804/89		x			x	x				x
A1805/89			x		x		x			x
A1807/89		x			x		x			x
A1810/89	x			x		x			x	
A1812/89			x	x			x		x	
A1812/89		x		x		x				x
A1813/89		x		x		x			x	
A1813/89		x		x		x				x
A1814/89		x		x		x			x	
A1815/89		x		x			x		x	
A1816/89		x			x		x		x	
A1816/89		x		x		x			x	
A1817/89		x		x		x				x
A1818/89		x		x		x			x	
A1820/89		x		x		x			x	
A1822/89		x		x		x			x	
A1823/89		x			x	x				x
A1824/89		x			x	x				x
A1826/89	x				x		x			x
A1827/89		x		x			x		x	
A1828/89		x		x			x		x	
A1829/89		x		x		x			x	
A1830/89		x			x		x		x	
A1832/89		x		x		x			x	
A1833/89		x		x		x				x
A1834/89		x		x		x			x	
A1835/89		x			x		x		x	
A1836/89		x		x			x		x	
A1837/89		x		x		x			x	
A1838/89		x		x		x			x	
A1839/89		x		x		x			x	
A1839/89		x		x		x				x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1840/89		x		x		x			x	
A1841/89		x			x		x			x
A1842/89		x		x		x			x	
A1844/89		x		x			x		x	
A1845/89			x		x		x			x
A1847/89	x			x		x			x	
A1848/89		x			x		x		x	
A1849/89		x		x		x			x	
A1849/89		x		x		x			x	
A1850/89		x			x		x		x	
A1851/89		x		x		x			x	
A1852/89		x		x		x			x	
A1853/89		x			x	x			x	
A1854/89		x		x		x			x	
A1855/89		x		x		x			x	
A1856/89		x		x		x				x
A1857/89	x			x			x		x	
A1858/89		x		x		x				x
A1859/89		x		x		x			x	
A1860/89		x		x		x				x
A1861/89		x		x		x				x
A1862/89		x		x		x			x	
A1863/89		x		x		x				x
A1864/89		x		x		x				x
A1865/89		x		x		x				x
A1866/89		x			x	x			x	
A1867/89		x		x		x				x
A1868/89		x		x		x				x
A1869/89		x		x		x			x	
A1870/89		x			x		x		x	
A1871/89		x		x		x			x	
A1872/89		x		x		x			x	
A1873/89		x			x	x				x
A1874/89		x		x		x			x	
A1875/89		x		x			x		x	
A1876/89		x		x		x				x
A1877/89		x			x	x			x	
A1878/89		x		x			x		x	
A1879/89		x		x			x		x	
A1880/89		x		x			x		x	
A1881/89		x		x		x			x	
A1882/89		x		x		x			x	
A1883/89		x		x		x			x	
A1884/89		x		x		x			x	
A1885/89		x		x		x			x	
A1886/89		x		x		x			x	
A1887/89		x		x			x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1888/89		x		x		x				x
A1889/89		x		x			x			x
A1890/89		x			x		x			x
A1891/89		x		x		x			x	
A1892/89		x			x	x				x
A1894/89		x		x		x			x	
A1894/89		x		x		x				x
A1895/89	x			x			x		x	
A1897/89		x			x		x		x	
A1899/89		x		x		x			x	
A1900/89	x			x		x			x	
A1901/89	x			x		x			x	
A1902/89		x		x		x			x	
A1903/89		x		x		x				x
A1904/89		x		x		x			x	
A1904/89		x		x		x			x	
A1906/89		x			x	x			x	
A1908/89		x		x		x			x	
A1909/89		x		x		x			x	
A1910/89		x		x		x			x	
A1911/89	x			x		x			x	
A1912/89		x			x		x		x	
A1913/89	x			x		x			x	
A1914/89		x		x		x				x
A1915/89		x		x		x			x	
A1916/89		x		x		x			x	
A1917/89		x		x		x				x
A1918/89		x		x		x				x
A1919/89		x		x		x			x	
A1920/89		x			x	x			x	
A1921/89		x		x		x				x
A1922/89		x			x		x		x	
A1923/89			x		x		x		x	
A1924/89			x	x		x			x	
A1925/89		x			x	x			x	
A1926/89		x		x		x			x	
A1927/89		x		x			x		x	
A1928/89			x	x			x		x	
A1929/89		x			x	x				x
A1930/89		x		x		x				x
A1931/89		x		x		x				x
A1933/89		x			x	x				x
A1934/89		x		x		x			x	
A1935/89			x		x	x			x	
A1935/89		x		x		x				x
A1936/89		x		x		x			x	
A1937/89		x		x			x		x	

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A1938/89		x		x		x			x	
A1939/89		x		x		x			x	
A1941/89		x		x		x			x	
A1942/89		x		x		x			x	
A1943/89		x			x	x				x
A1944/89		x			x	x				x
A1945/89		x		x		x				x
A1946/89		x		x		x				x
A1947/89			x		x	x				x
A1948/89		x			x	x				x
A1949/89		x		x		x				x
A1951/89			x	x		x				x
A1954/89		x			x	x				x
A1955/89		x		x		x				x
A1956/89		x			x		x			x
A1958/89		x		x		x				x
A1962/89		x			x	x				x
A1963/89		x			x	x				x
A1966/89		x			x	x				x
A1969/89		x		x		x				x
A1985/89		x			x	x				x
A1986/89		x			x		x			x
A1987/89		x			x	x				x
A1988/89		x			x	x				x
A1989/89	x				x	x				x
A1990/89		x		x		x				x
A1991/89		x		x		x			x	
A1992/89		x			x		x			x
A1993/89		x			x		x			x
A1995/89			x		x		x			x
A1996/89			x		x		x			x
A1997/89		x			x		x			x
A1998/89			x		x		x			x
A1999/89		x			x		x			x
A2000/89	x				x		x			x
A2001/89		x			x		x			x
A2002/89		x			x		x			x
A2004/89		x			x	x			x	
A2005/89			x		x		x			x
A2006/89		x			x		x			x
A2007/89		x			x		x			x
A2008/89		x			x		x			x
A2009/89		x		x		x				x
A2010/89		x			x	x				x
A2012/89		x			x	x				x
A2014/89		x		x		x			x	
A2015/89			x		x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A2016/89		x			x	x				x
A2017/89		x		x		x				x
A2018/89			x		x		x			x
A2019/89		x			x		x			x
A2020/89			x		x		x			x
A2021/89		x			x		x			x
A2022/89		x		x		x				x
A2023/89		x			x		x			x
A2024/89		x			x		x			x
A2025/89			x		x		x			x
A2026/89			x		x		x			x
A2027/89		x		x		x				x
A2028/89		x			x		x		x	
A2029/89		x			x	x				x
A2030/89		x			x	x				x
A2031/89		x			x	x				x
A2032/89		x		x		x				x
A2033/89			x		x	x				x
A2033/89		x			x		x			x
A2034/89		x			x	x			x	
A2034/89		x		x		x				x
A2036/89		x			x		x		x	
A2037/89		x		x		x				x
A2038/89		x		x		x				x
A2039/89		x			x		x			x
A2040/89		x		x		x				x
A2041/89			x		x		x			x
A2042/89		x			x		x			x
A2043/89			x		x		x			x
A2044/89	x				x		x			x
A2045/89		x			x		x			x
A2046/89		x			x	x				x
A2047/89		x			x	x				x
A2048/89		x			x	x				x
A2049/89		x			x		x			x
A2050/89			x		x		x			x
A2051/89		x			x	x				x
A2052/89			x		x		x			x
A2053/89			x		x		x			x
A2054/89		x			x	x				x
A2055/89		x			x		x			x
A2056/89			x		x		x			x
A2057/89		x			x	x				x
A2058/89		x		x		x				x
A2060/89			x		x		x			x
A2061/89			x		x		x			x
A2062/89			x	x			x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A2063/89		x			x	x				x
A2064/89		x			x	x				x
A2065/89		x		x		x				x
A2066/89		x			x	x				x
A2067/89		x			x	x				x
A2068/89			x		x		x			x
A2069/89		x			x	x				x
A2070/89		x		x		x				x
A2071/89		x			x	x				x
A2072/89		x			x		x			x
A2073/89			x		x		x			x
A2074/89		x			x		x		x	
A2075/89		x			x	x				x
A2076/89		x			x	x				x
A2077/89			x		x		x			x
A2078/89		x			x		x			x
A2079/89		x		x		x				x
A2080/89		x		x		x				x
A2082/89		x		x		x				x
A2083/89			x		x		x			x
A2084/89			x		x		x			x
A2085/89			x		x		x			x
A2086/89		x			x		x		x	
A2087/89		x		x		x				x
A2088/89			x	x		x			x	
A2089/89			x		x		x			x
A2090/89		x		x		x				x
A2091/89			x		x		x			x
A2092/89		x		x		x				x
A2093/89		x		x		x				x
A2095/89		x			x	x				x
A2096/89		x		x		x				x
A2097/89		x		x		x				x
A2098/89	x				x		x			x
A2099/89		x		x		x			x	
A2099/89		x		x		x				x
A20.3/89		x			x		x			x
A2100/89	x				x	x				x
A2101/89		x		x		x				x
A2102/89		x		x		x			x	
A2103/89			x		x		x			x
A2103/89	x				x	x				x
A2104/89			x		x		x			x
A2105/89		x			x		x			x
A2106/89		x		x		x				x
A2107/89	x				x		x			x
A2108/89			x		x		x			x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A2109/89		x			x		x			x
A2110/89		x			x		x			x
A2111/89		x			x	x				x
A2112/89	x				x	x				x
A2113/89			x		x		x			x
A2114/89		x			x	x				x
A2115/89			x		x		x			x
A2116/89			x		x		x			x
A2117/89			x		x		x			x
A2118/89			x		x		x		x	
A2119/89			x		x		x			x
A2120/89		x			x	x				x
A2120/89			x		x		x			x
A2122/89		x		x		x				x
A2123/89		x			x	x				x
A2124/89			x		x		x			x
A2125/89			x		x		x			x
A2126/89		x		x		x				x
A2127/89	x				x		x			x
A2128/89			x		x		x			x
A2130/89	x				x		x			x
A2131/89		x		x		x				x
A2132/89		x			x		x		x	
A2133/89		x			x		x			x
A2134/89		x			x		x		x	
A2135/89		x		x		x			x	
A2136/89			x		x	x				x
A2137/89		x		x		x				x
A2138/89			x		x		x			x
A2139/89		x			x	x				x
A2141/89		x			x	x				x
A2142/89			x		x		x			x
A2143/89		x			x	x				x
A2144/89		x			x		x			x
A2145/89		x		x		x				x
A2146/89		x			x	x				x
A2147/89			x		x		x			x
A2148/89			x		x		x			x
A2149/89		x			x		x			x
A2151/89		x			x	x				x
A2152/89		x			x		x			x
A2153/89		x		x		x				x
A2154/89	x				x	x				x
A2155/89		x		x		x				x
A2156/89			x		x		x			x
A2157/89			x		x		x			x
A2158/89		x			x	x				x

CLOVERDALE SITE (23BN2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
A2159/89			x		x		x			x
A2160/89		x			x		x			x
A2161/89		x		x		x				x
A2162/89	x				x		x			x
A2163/89			x		x		x			x
A2164/89			x		x		x			x
A2165/89			x		x		x			x
A2166/89			x		x		x			x
A2167/89			x		x		x			x
A2168/89		x			x		x		x	
A2169/89			x		x		x			x
A2170/89		x			x		x			x
A2172/89		x			x		x			x
A2173/89			x		x		x			x
A2174/89		x		x		x			x	
A2175/89			x	x		x			x	
A2176/89		x		x		x				x
A2178/89			x		x		x			x
A2410/89		x			x		x			x
A2994/89		x		x			x			x
A952/89			x		x		x			x
A984/89		x			x		x			x
Count	81	757	263	359	742	513	574	14	312	789
Sum			1101		1101			1101		1101
Percent	7%	69%	24%	33%	67%	47%	52%	1%	28%	72%
			100%		100%			100%		100%

APPENDIX A.2.

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE					APPENDAGE		FORMING		FIRING	
Catalog Number	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Should	Bowl	Bottle	Undet	Present	Absent	Lump	Coil	Red	Oxy
A02179.255/89	x				x		x						x	x			x
A0921/89	x				x		x					x		x		x	
A0922/89	x			x			x						x	x		x	
A0923/89	x			x			x						x	x		x	
A0924/89	x			x			x						x	x		x	
A0925/89	x			x					x				x	x		x	
A0926/89	x			x			x						x	x		x	
A0927/89	x			x			x						x	x		x	
A0928/89	x			x			x						x	x		x	
A0929/89	x			x			x						x	x		x	
A0930/89	x			x			x						x	x		x	
A0931/89	x			x			x						x	x		x	
A0932/89	x			x			x						x	x		x	
A0933/89	x			x			x						x	x		x	
A0934/89	x				x						x		x	x		x	
A0935/89	x			x					x				x	x		x	
A0936/89	x			x			x						x	x		x	
A0937/89	x			x			x						x	x			x
A0938/89	x			x			x						x	x		x	
A0939/89	x			x			x						x	x		x	
A0940/89	x			x			x						x	x		x	
A0941/89	x			x			x						x	x		x	
A0942/89	x			x			x						x	x		x	
A0947a/89		x				x		x					x		x	x	
A0947b/89		x			x		x						x	x		x	
A0948/89		x			x						x		x	x		x	
A0950/89		x			x			x					x		x	x	
A0951/89		x			x						x		x	x		x	

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	RIM TYPE				RIM ORIENTATION			RIM DECOR		BODY DECOR		ASSOCIATED GROUP		
Catalog Number	Collar	Direct	Rolled	S-Shape	Vertical	Flared	Inverted	Present	Absent	Present	Absent	NE	SK	UND
A02179.255/89		x				x			x		x	x		
A0921/89		x				x			x		x	x		
A0922/89		x			x				x		x	x		
A0923/89		x			x				x		x	x		
A0924/89		x				x		x			x	x		
A0925/89		x			x				x		x	x		
A0926/89		x				x			x		x	x		
A0927/89		x				x			x		x	x		
A0928/89		x				x			x		x	x		
A0929/89			x			x			x		x	x		
A0930/89	x					x		x			x	x		
A0931/89		x				x			x		x	x		
A0932/89	x					x			x		x	x		
A0933/89		x				x			x		x	x		
A0934/89	x					x			x		x	x		
A0935/89		x				x			x		x	x		
A0936/89		x			x				x		x	x		
A0937/89		x			x				x		x	x		
A0938/89		x			x				x		x	x		
A0939/89		x				x			x		x	x		
A0940/89		x				x			x		x	x		
A0941/89		x			x				x		x	x		
A0942/89		x				x		x			x	x		
A0947a/89			x			x			x	x			x	
A0947b/89			x			x			x		x		x	
A0948/89		x				x		x		x			x	
A0950/89		x				x			x	x			x	
A0951/89		x				x			x	x			x	

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE					APPENDAGE		FORMING		FIRING	
Catalog Number	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Should	Bowl	Bottle	Undet	Present	Absent	Lump	Coil	Red	Oxy
A0953/89		x			x		x						x	x		x	
A0955/89		x				x	x						x	x		x	
A0956/89		x			x		x						x	x		x	
A0957/89		x			x			x					x	x		x	
A0958/89		x				x		x					x	x		x	
A0959/89		x				x		x					x	x		x	
A0960/89		x				x		x					x	x		x	
A0964/89		x			x		x						x	x		x	
A0965/89		x			x						x		x	x		x	
A0968/89		x				x	x					x		x		x	
A0969/89		x				x		x					x		x	x	
A0971/89		x				x		x				x		x		x	
A0973/89	x				x				x			x		x		x	
A0974/89		x			x					x		x		x		x	
A0975/89		x			x					x		x			x	x	
A0976/89		x			x		x					x		x		x	
A0977/89	x				x				x			x		x		x	
A0982/89		x				x		x					x	x		x	
A0983/89		x				x	x						x		x	x	
A0987/89	x				x		x						x	x		x	
A0989/89	x				x			x					x	x		x	
A0998/89		x			x						x		x	x		x	
A0999/89			x		x						x		x	x		x	
A1015/89	x				x		x						x	x		x	
A1028/89	x			x					x				x	x		x	
A1029/89		x			x			x					x	x		x	
A1044/89		x			x		x						x		x	x	
A1049/89	x				x			x					x	x		x	
A1050/89		x			x			x				x		x		x	
A1051/89	x				x		x						x	x		x	

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	RIM TYPE				RIM ORIENTATION			RIM DECOR		BODY DECOR		ASSOCIATED GROUP		
Catalog Number	Collar	Direct	Rolled	S-Shape	Vertical	Flared	Inverted	Present	Absent	Present	Absent	NE	SK	UND
A0953/89		x				x			x	x			x	
A0955/89		x				x			x	x			x	
A0956/89		x				x			x	x			x	
A0957/89		x				x			x	x			x	
A0958/89		x				x			x	x			x	
A0959/89	x					x			x	x			x	
A0960/89		x				x			x	x			x	
A0964/89		x				x			x	x			x	
A0965/89		x				x			x	x			x	
A0968/89			x			x			x	x			x	
A0969/89			x			x			x	x			x	
A0971/89			x			x			x	x			x	
A0973/89		x			x				x		x	x		
A0974/89		x			x				x		x		x	
A0975/89		x			x				x		x		x	
A0976/89		x			x				x		x		x	
A0977/89		x					x		x		x	x		
A0982/89		x				x			x		x		x	
A0983/89		x				x			x		x		x	
A0987/89		x				x			x		x	x		
A0989/89		x				x			x		x	x		
A0998/89			x			x			x		x		x	
A0999/89		x				x			x		x			x
A1015/89		x				x			x		x	x		
A1028/89		x				x			x		x	x		
A1029/89		x				x			x		x		x	
A1044/89		x				x			x		x		x	
A1049/89		x				x			x		x		x	
A1050/89	x					x			x		x		x	
A1051/89		x				x		x			x	x		

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE					APPENDAGE		FORMING		FIRING	
Catalog Number	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Should	Bowl	Bottle	Undet	Present	Absent	Lump	Coil	Red	Oxy
A1052/89		x			x		x					x		x		x	
A1053/89	x				x		x					x		x			x
A1055/89	x				x		x						x	x		x	
A1058/89	x				x			x					x	x		x	
A1062/89	x				x		x					x		x		x	
A1063/89		x				x					x	x		x		x	
A1094/89		x			x						x		x	x		x	
A1183/89		x				x		x					x	x		x	
A1212/89		x			x						x		x		x	x	
A1213/89			x		x			x					x	x		x	
A1218/89			x		x			x					x		x	x	
A1219/89		x			x			x					x	x			x
A1226/89	x				x		x						x	x		x	
A1229/89		x				x		x					x	x		x	
A1230/89		x			x		x						x	x		x	
A1234/89	x				x						x		x	x			x
A1235/89	x				x		x						x	x		x	
A1237/89		x			x						x		x	x		x	
A1239/89	x				x		x						x	x		x	
A1240/89	x	x			x		x						x	x		x	
A1247/89	x				x		x						x	x		x	
A1248/89	x				x			x					x	x		x	
A1249/89	x				x		x						x	x		x	
A1251/89	x				x		x						x	x		x	
A1255/89	x				x		x						x	x			x
A1256/89		x				x	x						x		x	x	
A1257/89	x				x		x						x	x		x	
A1258/89	x					x	x						x	x		x	
A1273/89		x			x						x	x		x		x	
A1281/89		x				x		x					x	x		x	

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	RIM TYPE				RIM ORIENTATION			RIM DECOR		BODY DECOR		ASSOCIATED GROUP		
Catalog Number	Collar	Direct	Rolled	S-Shape	Vertical	Flared	Inverted	Present	Absent	Present	Absent	NE	SK	UND
A1052/89		x				x			x		x		x	
A1053/89		x				x			x		x	x		
A1055/89		x				x			x		x	x		
A1058/89		x				x			x		x	x		
A1062/89		x				x			x		x	x		
A1063/89		x				x			x		x		x	
A1094/89		x				x			x	x			x	
A1183/89		x				x			x		x		x	
A1212/89		x				x			x		x		x	
A1213/89	x					x			x		x	x		
A1218/89		x				x			x		x		x	
A1219/89		x				x			x		x		x	
A1226/89		x				x			x		x	x		
A1229/89			x			x			x		x		x	
A1230/89		x				x			x		x		x	
A1234/89			x			x			x		x	x		
A1235/89		x			x				x		x	x		
A1237/89		x				x			x		x		x	
A1239/89		x				x			x		x	x		
A1240/89		x				x			x		x			x
A1247/89		x				x			x		x	x		
A1248/89		x				x			x		x	x		
A1249/89		x				x			x		x	x		
A1251/89		x				x			x		x	x		
A1255/89		x				x			x		x	x		
A1256/89		x				x			x		x		x	
A1257/89		x				x			x		x	x		
A1258/89		x				x			x		x	x		
A1273/89		x				x			x	x			x	
A1281/89		x				x			x	x			x	

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE					APPENDAGE		FORMING		FIRING	
Catalog Number	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Should	Bowl	Bottle	Undet	Present	Absent	Lump	Coil	Red	Oxy
A1286/89		x			x			x					x	x		x	
A1289/89	x				x				x				x	x		x	
A1298/89		x				x	x						x	x		x	
A1301/89		x			x			x					x	x		x	
A1303/89		x			x		x						x	x		x	
A1310/89		x				x		x				x			x	x	
A1313/89		x			x				x			x		x		x	
A1314/89	x				x				x			x		x		x	
A1318/89		x			x						x	x		x		x	
A1322/89		x			x		x					x		x		x	
A1323/89		x			x						x		x	x		x	
A1324/89		x				x		x					x	x		x	
A1326/89		x			x			x					x	x		x	
A1329/89		x			x						x		x	x		x	
A1334/89	x					x			x				x	x		x	
A1336a/89	x			x			x						x	x		x	
A1336b/89	x			x			x						x	x		x	
A1346/89	x			x			x						x	x		x	
A1347/89			x	x			x						x	x		x	
A1348/89	x			x			x						x	x		x	
A1349/89	x				x		x						x	x		x	
A1350/89	x			x			x						x	x		x	
A1357/89	x			x			x						x	x		x	
A1359/89	x				x		x						x	x			x
A1362/89	x	x		x			x						x	x		x	
A1363/89	x			x			x						x	x		x	
A1364/89	x			x			x						x	x		x	
A1365/89	x			x			x						x	x		x	
A1370/89	x			x			x						x	x		x	
A1376/89	x			x			x						x	x		x	

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	RIM TYPE				RIM ORIENTATION			RIM DECOR		BODY DECOR		ASSOCIATED GROUP		
Catalog Number	Collar	Direct	Rolled	S-Shape	Vertical	Flared	Inverted	Present	Absent	Present	Absent	NE	SK	UND
A1286/89		x				x			x	x			x	
A1289/89		x					x		x		x		x	
A1298/89		x				x			x	x			x	
A1301/89		x				x			x	x			x	
A1303/89		x				x			x	x			x	
A1310/89		x				x			x	x			x	
A1313/89		x					x		x	x			x	
A1314/89		x			x				x		x	x		
A1318/89		x				x			x	x			x	
A1322/89		x				x			x	x			x	
A1323/89		x				x			x	x			x	
A1324/89		x				x			x	x			x	
A1326/89		x				x			x	x			x	
A1329/89		x				x			x	x			x	
A1334/89		x					x		x		x	x		
A1336a/89	x					x		x			x	x		
A1336b/89		x				x			x		x	x		
A1346/89		x			x				x		x	x		
A1347/89	x				x			x			x	x		
A1348/89	x					x		x			x	x		
A1349/89	x					x		x			x	x		
A1350/89	x					x		x			x	x		
A1357/89		x				x			x		x	x		
A1359/89		x				x			x		x	x		
A1362/89		x			x				x		x	x		
A1363/89	x					x		x			x	x		
A1364/89	x					x		x			x	x		
A1365/89		x				x			x		x	x		
A1370/89	x					x		x			x	x		
A1376/89	x					x		x			x	x		

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE					APPENDAGE		FORMING		FIRING	
Catalog Number	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Should	Bowl	Bottle	Undet	Present	Absent	Lump	Coil	Red	Oxy
A1380/89	x			x			x						x	x		x	
A1381/89	x			x			x						x	x		x	
A1386/89	x			x			x						x	x		x	
A1388/89	x			x			x						x	x		x	
A1389/89	x			x			x						x	x		x	
A1390/89	x			x			x						x	x			x
A1395/89	x				x		x						x	x		x	
A1397/89	x			x			x						x	x		x	
A1401/89	x			x			x						x	x		x	
A1402/89	x			x			x						x	x		x	
A1403/89	x			x			x						x	x		x	
A1404/89	x				x		x						x	x		x	
A1405/89	x			x			x						x	x		x	
A1406/89	x			x			x						x	x		x	
A1407/89	x			x			x						x	x		x	
A1408/89	x			x			x						x	x		x	
A1409/89		x				x		x					x	x		x	
A1410/89			x	x			x						x	x		x	
A1412/89	x			x			x						x	x		x	
A1554/89	x				x		x						x	x		x	
A1555/89		x			x		x						x	x		x	
A1696/89	x			x					x				x	x		x	
A1702/89	x			x			x						x	x		x	
A1893/89	x			x			x						x	x		x	
A1943/89	x			x			x						x	x		x	
A1952/89	x			x					x				x	x		x	
A1960/89	x			x			x						x	x		x	
A1961/89	x			x			x					x		x		x	
A1964/89	x			x			x						x	x		x	
A1965/89			x		x		x						x	x		x	

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	RIM TYPE				RIM ORIENTATION			RIM DECOR		BODY DECOR		ASSOCIATED GROUP		
Catalog Number	Collar	Direct	Rolled	S-Shape	Vertical	Flared	Inverted	Present	Absent	Present	Absent	NE	SK	UND
A1380/89	x					x		x			x	x		
A1381/89		x				x			x		x	x		
A1386/89	x					x		x			x	x		
A1388/89	x					x		x			x	x		
A1389/89		x			x			x			x	x		
A1390/89		x			x				x		x	x		
A1395/89	x					x		x			x	x		
A1397/89	x					x		x			x	x		
A1401/89	x				x			x			x	x		
A1402/89	x				x			x			x	x		
A1403/89		x				x		x			x	x		
A1404/89		x				x			x		x	x		
A1405/89	x					x		x			x	x		
A1406/89	x					x		x			x	x		
A1407/89		x				x			x		x	x		
A1408/89	x					x		x			x	x		
A1409/89		x				x			x	x			x	
A1410/89		x				x			x		x	x		
A1412/89		x				x			x		x	x		
A1554/89		x				x			x		x	x		
A1555/89		x				x			x		x		x	
A1696/89		x					x		x		x	x		
A1702/89	x					x			x		x	x		
A1893/89				x	x				x		x	x		
A1943/89		x				x			x		x	x		
A1952/89		x					x		x		x	x		
A1960/89		x				x			x		x	x		
A1961/89		x			x				x		x	x		
A1964/89		x				x			x		x	x		
A1965/89		x				x			x		x	x		

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE					APPENDAGE		FORMING		FIRING	
Catalog Number	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Should	Bowl	Bottle	Undet	Present	Absent	Lump	Coil	Red	Oxy
A1966/89	x			x			x						x	x		x	
A1967/89	x			x			x						x	x		x	
A1968/89	x			x			x					x		x		x	
A1970/89	x			x			x					x		x		x	
A1971/89	x			x			x						x	x		x	
A1972/89	x				x		x						x	x		x	
A1973/89	x			x			x						x	x		x	
A1974/89	x			x			x						x	x		x	
A1980/89	x				x		x						x	x		x	
Count	99	54	6	65	71	21	102	27	11	2	15	22	135	147	10	149	8
Sum			159			157					157		157		157		157
Percent	62%	34%	4%	41.4%	45.2%	13.4%	65.0%	17.2%	7.0%	1.3%	9.6%	14.0%	86.0%	93.6%	6.4%	94.9%	5.1%
			100%			100%					100%		100%		100%		100%

KEY: Decor = Decoration; Cd-Mk = Cordmarked; Smo = Smoothed; Glob = Globular; Should = Shouldered; Undet = Undetermined Jar; Red = Reducing; Oxy = Oxidizing; Collar = Collared.

CLOVERDALE SITE (23BN2) - Class II Sherds - Attribute Data

	RIM TYPE				RIM ORIENTATION			RIM DECOR		BODY DECOR		ASSOCIATED GROUP		
Catalog Number	Collar	Direct	Rolled	S-Shape	Vertical	Flared	Inverted	Present	Absent	Present	Absent	NE	SK	UND
A1966/89				x	x				x		x	x		
A1967/89		x			x				x		x	x		
A1968/89		x				x			x		x	x		
A1970/89		x				x			x		x	x		
A1971/89		x				x			x		x	x		
A1972/89		x				x			x		x	x		
A1973/89				x	x				x		x	x		
A1974/89		x			x				x		x	x		
A1980/89		x			x			x			x	x		
Count	26	119	9	3	27	124	6	27	130	32	125	100	55	2
Sum				157			157		157		157			157
Percent	16.6%	75.8%	5.7%	1.9%	17.2%	79.0%	3.8%	17.2%	82.8%	20.4%	79.6%	63.7%	35.0%	1.3%
				100%			100%		100%		100%			100%

APPENDIX A.3.

CLOVERDALE SITE (23BN2) - Class II Sherds - Dimensional Data

	Rim Thickness	Body Thickness	Rim Diameter	Body Diameter	Vertical Tangency	Rim Height	Body Height	Hardness	Range of Rim Thickness		Range of Body Thickness		Factor Scores	
Catalog Number	(mm)	(mm)	(cm)	(cm)	(cm)	(mm)	(cm)		(mm)	(mm)	(mm)	(mm)	Factor I	Factor II
A02179.255/89	7.20	5.90	16.00	-	-	9.50	-	2.0	6.7	7.7	5.5	6.3	-0.66252	0.07375
A0921/89	5.80	3.85	14.00	-	-	12.50	-	2.0	5.6	6.0	2.0	5.7	-0.65724	-0.88540
A0922/89	5.55	5.85	14.00	20.00	6.00	22.30	-	2.5	5.2	5.9	5.3	6.4	1.08730	-0.28019
A0923/89	4.95	6.55	12.00	20.25	8.00	21.60	-	2.5	4.6	5.3	5.9	7.2	1.37578	-0.48157
A0924/89	5.35	6.78	12.00	17.00	5.50	17.80	-	2.0	5.0	5.7	6.4	7.2	0.87452	-0.38391
A0925/89 *	5.75	6.55	14.00	14.00	4.50	-	-	2.0	5.7	5.8	5.9	7.2	-	-
A0926/89	5.45	4.75	14.00	-	-	10.30	-	2.5	5.2	5.7	4.7	4.8	-0.65239	-0.80138
A0927/89	5.80	6.60	17.00	24.00	8.00	29.10	-	2.0	5.5	6.1	5.4	7.8	1.61469	0.27117
A0928/89	4.65	6.70	20.00	-	-	23.90	-	2.0	4.3	5.0	5.2	8.2	-0.43130	0.23502
A0929/89	4.60	5.10	16.00	25.00	8.00	13.00	-	4.0	4.0	5.2	5.0	5.2	1.45964	-0.92933
A0930/89	4.75	4.00	16.00	23.00	8.50	26.20	-	2.5	3.5	6.0	3.5	4.5	1.56684	-0.59419
A0931/89	7.20	6.40	18.00	-	-	12.50	-	2.0	6.9	7.5	5.8	7.0	-0.61494	0.38611
A0932/89	7.05	5.20	22.00	30.00	12.00	36.00	-	2.5	7.0	7.1	4.8	5.6	2.42120	0.92625
A0933/89	7.75	9.25	20.00	-	-	-	-	2.5	7.2	8.3	8.8	9.7	-0.69788	0.83980
A0934/89	13.40	9.85	28.00	-	-	20.70	-	4.0	12.5	14.3	9.5	10.2	-0.52653	3.68810
A0935/89	6.50	4.95	26.00	-	-	15.60	-	2.0	6.2	6.8	4.3	5.6	-0.57531	0.48011
A0936/89	8.05	6.45	18.00	-	-	39.70	-	2.0	6.8	9.3	4.8	8.1	-0.33112	1.39284
A0937/89	5.60	5.45	18.00	-	-	29.60	-	2.0	5.2	6.0	5.0	5.9	-0.42527	0.23657
A0938/89	5.65	7.30	22.00	-	-	31.30	-	2.0	5.4	5.9	7.1	7.5	-0.35678	0.97618
A0939/89	7.65	7.95	20.00	-	-	28.00	-	2.5	6.7	8.6	7.3	8.6	-0.41244	1.42429
A0940/89	7.30	6.30	18.00	-	-	33.20	-	2.5	7.2	7.4	5.4	7.2	-0.38944	0.99752
A0941/89	5.60	5.20	12.00	20.00	5.00	21.80	-	2.5	5.0	6.2	4.2	6.2	0.93546	-0.51762
A0942/89	5.05	5.25	14.00	21.50	6.00	14.60	-	4.0	4.6	5.5	4.3	6.2	1.06601	-0.81170
A0947a/89	7.85	6.00	20.00	-	-	10.50	-	2.5	7.2	8.5	3.8	8.2	-0.65015	0.58260
A0947b/89	6.65	5.10	18.00	-	-	17.40	-	2.0	6.0	7.3	3.9	6.3	-0.58576	0.09406
A0948/89	8.60	5.55	24.00	-	-	11.10	-	2.0	5.2	12.0	4.0	7.1	-0.65388	0.98694
A0950/89	6.65	4.50	24.00	-	-	10.80	-	2.5	6.5	6.8	3.0	6.0	-0.64998	0.21516

CLOVERDALE SITE (23BN2) - Class II Sherds - Dimensional Data

Catalog Number	Rim Thickness (mm)	Body Thickness (mm)	Rim Diameter (cm)	Body Diameter (cm)	Vertical Tangency (cm)	Rim Height (mm)	Body Height (cm)	Hardness	Range of Rim Thickness (mm)		Range of Body Thickness (mm)		Factor Scores Factor I	Factor II
A0951/89	7.35	7.10	18.00	-	-	18.00	-	3.0	7.2	7.5	6.4	7.8	-0.55648	0.54462
A0953/89	5.05	4.60	9.00	13.00	2.50	6.80	-	2.0	4.8	5.3	4.4	4.8	0.14819	-1.49483
A0955/89	5.15	5.65	16.00	-	-	11.20	-	2.0	4.8	5.5	4.8	6.5	-0.62201	-0.47251
a0956/89	5.80	6.00	16.00	-	-	7.90	-	2.5	5.4	6.2	5.2	6.8	-0.65389	-0.37722
A0957/89	5.90	4.60	18.00	-	-	13.20	-	4.0	5.6	6.2	4.1	5.1	-0.62689	-0.31799
A0958/89	7.55	7.10	24.00	-	-	14.10	-	2.0	7.2	7.9	7.0	7.2	-0.57005	1.11109
A0959/89	6.05	5.35	22.00	-	-	15.00	-	2.0	5.9	6.2	3.9	6.8	-0.58197	0.16846
A0960/89	6.20	6.55	28.00	-	-	11.90	-	4.0	6.2	6.2	5.8	7.3	-0.57300	0.74060
A0964/89	4.90	4.60	14.00	-	-	13.20	-	2.0	4.2	5.6	2.7	6.5	-0.62051	-0.89668
A0965/89	7.65	7.10	18.00	-	-	9.70	-	2.5	7.6	7.7	6.1	8.1	-0.63479	0.57718
A0968/89	6.25	5.15	14.00	-	-	10.70	-	2.0	6.0	6.5	3.2	7.1	-0.65302	-0.50277
A0969/89	8.90	6.75	23.00	-	-	11.80	-	2.0	8.2	9.6	4.3	9.2	-0.62517	1.19300
A0971/89	7.00	7.05	14.00	-	-	8.20	-	2.0	6.5	7.5	6.1	8.0	-0.65145	0.05441
A0973/89 *	3.85	5.30	90.00	-	-	-	-	2.5	3.7	4.0	5.0	5.6	-	-
A0974/89 *	5.70	5.45	14.00	-	-	51.00	-	2.0	5.7	5.7	3.7	7.2	-	-
A0975/89 *	6.00	9.00	12.00	-	-	21.50	-	2.0	6.0	6.0	8.4	9.6	-	-
A0976/89	6.95	6.95	10.00	-	-	33.00	-	2.0	5.7	8.2	6.2	7.7	-0.40037	0.43388
A0977/89 *	3.90	5.45	8.00	-	-	-	-	2.0	3.8	4.0	4.9	6.0	-	-
A0982/89	5.80	4.65	20.00	-	-	14.10	-	2.0	5.3	6.3	3.2	6.1	-0.60601	-0.26184
A0983/89	4.70	5.30	18.00	-	-	8.40	-	2.0	4.6	4.8	4.6	6.0	-0.64013	-0.70175
A0987/89	5.45	6.20	8.00	11.75	4.50	11.20	-	2.0	5.1	5.8	5.6	6.8	0.42419	-1.00187
A0989/89	2.90	5.70	9.00	17.00	4.50	6.50	-	2.0	2.7	3.1	4.6	6.8	0.61984	-1.78559
A0998/89	9.25	4.85	18.00	-	-	13.20	-	2.0	8.9	9.6	4.2	5.5	-0.66968	0.57803
A0999/89	5.70	7.70	18.00	-	-	10.60	-	2.0	5.2	6.2	7.7	7.7	-0.58692	0.17718
A1015/89	4.90	6.65	10.00	-	-	9.30	-	4.0	4.8	5.0	6.4	6.9	-0.63179	-0.78651
A1028/89	4.30	5.35	8.50	12.25	3.50	1.00	-	2.0	4.0	4.6	4.8	5.9	0.21102	-1.73345
A1029/89	6.80	4.55	16.00	-	-	11.60	-	2.0	6.3	7.3	9.1	0.0	-0.66256	-0.29755
A1044/89	4.70	6.55	12.00	19.50	5.50	12.00	-	2.0	4.7	4.7	5.6	7.5	0.95632	-1.46020
A1049/89	4.90	5.70	17.00	27.00	7.00	8.50	-	2.5	4.8	5.0	3.2	8.2	1.36921	-0.73148

CLOVERDALE SITE (23BN2) - Class II Sherds - Dimensional Data

	Rim Thickness	Body Thickness	Rim Diameter	Body Diameter	Vertical Tangency	Rim Height	Body Height	Hardness	Range of Rim Thickness		Range of Body Thickness		Factor Scores	
Catalog Number	(mm)	(mm)	(cm)	(cm)	(cm)	(mm)	(cm)		(mm)	(mm)	(mm)	(mm)	Factor I	Factor II
A1050/89	5.50	4.50	14.00	-	-	11.80	-	2.0	5.5	5.5	2.8	6.2	-0.64354	-0.84055
A1051/89	7.50	6.20	7.00	10.00	3.50	8.60	-	2.0	6.2	8.8	5.6	6.8	0.15765	-0.51944
A1052/89	3.35	4.00	16.00	27.50	8.00	5.60	-	2.5	3.2	3.5	3.0	5.0	1.48522	-1.62826
A1053/89	9.05	5.35	14.00	-	-	14.00	-	2.0	8.9	9.2	4.5	6.2	-0.66609	0.41049
A1055/89	7.50	5.60	14.00	-	-	11.00	-	3.0	6.8	8.2	3.6	7.6	-0.66631	-0.00131
A1058/89	4.90	6.55	10.00	16.00	5.50	0.88	-	2.0	3.8	6.0	5.5	7.6	0.63873	-1.21243
A1062/89	4.70	3.60	14.00	24.00	5.00	9.70	-	2.0	4.5	4.9	2.6	4.6	0.95515	-1.47751
A1063/89	6.40	7.90	22.00	-	-	7.70	-	2.5	5.9	6.9	6.9	8.9	-0.61264	0.64594
A1094/89	6.05	6.30	22.00	-	-	9.20	-	2.0	5.8	6.3	6.2	6.4	-0.62103	0.25199
A1183/89	3.95	4.30	8.00	12.25	2.50	5.60	-	2.0	3.8	4.1	3.6	5.0	0.11291	-1.98165
A1212/89	6.75	7.00	18.00	-	-	12.90	-	2.0	6.5	7.0	6.6	7.4	-0.59658	0.38046
A1213/89	8.10	6.55	18.00	-	-	13.50	-	2.0	7.9	8.3	6.3	6.8	-0.61508	0.62291
A1218/89	5.15	4.60	14.00	19.00	4.00	8.20	-	2.0	5.1	5.2	4.1	5.1	0.61165	-1.04076
A1219/89	5.15	7.60	12.00	15.00	3.00	6.50	-	2.0	4.8	5.5	6.1	9.1	0.35630	-0.53514
A1226/89	5.50	6.85	15.00	-	-	10.40	-	2.0	4.8	6.2	6.3	7.4	-0.60988	-0.30915
A1229/89	4.75	4.35	20.00	24.00	5.00	8.60	-	2.0	3.6	5.9	3.8	4.9	0.97081	-0.83178
A1230/89	6.30	6.25	20.00	-	-	14.50	-	2.0	6.0	6.6	4.9	7.6	-0.58307	0.29015
A1234/89	10.05	5.35	20.00	-	-	14.50	-	2.0	9.6	10.5	4.6	6.1	-0.65577	1.03402
A1235/89	6.25	6.30	18.00	-	-	22.10	-	2.0	5.8	6.7	5.2	7.4	-0.49155	0.36491
A1237/89	6.70	6.15	16.00	-	-	6.80	-	2.0	6.4	7.0	5.8	6.5	-0.68542	-0.10692
A1239/89	4.80	4.20	11.00	13.75	4.00	11.80	-	2.0	4.5	5.1	3.2	5.2	0.42577	-1.30718
A1240/89	6.45	5.15	18.00	-	-	12.50	-	4.0	5.8	7.1	3.5	6.8	-0.62585	-0.07010
A1247/89	11.10	7.00	18.00	-	-	21.80	-	2.5	10.3	11.9	6.8	7.2	-0.57018	1.75650
A1248/89	5.30	6.85	12.00	18.50	5.00	9.20	-	2.0	5.1	5.5	4.7	9.0	0.77536	-0.64858
A1249/89	5.00	4.50	12.00	-	-	7.50	-	4.0	4.6	5.4	3.5	5.5	-0.68934	-1.20124
A1251/89	3.70	4.65	7.00	10.00	3.50	5.60	-	2.5	3.6	3.8	4.4	4.9	0.15613	-1.96204
A1255/89	5.15	9.10	14.00	21.25	6.00	7.70	-	2.0	4.9	5.4	8.2	10.0	1.05232	-0.06840
A1256/89	8.00	6.05	16.00	-	-	11.20	-	2.0	7.5	8.5	4.6	7.5	-0.65848	0.32188
A1257/89	6.25	5.25	18.00	-	-	23.00	-	2.0	6.0	6.5	5.0	5.5	-0.50260	0.14551

CLOVERDALE SITE (23BN2) - Class II Sherds - Dimensional Data

Catalog Number	Rim Thickness (mm)	Body Thickness (mm)	Rim Diameter (cm)	Body Diameter (cm)	Vertical Tangency (cm)	Rim Height (mm)	Body Height (cm)	Hardness	Range of Rim Thickness (mm)		Range of Body Thickness (mm)		Factor Scores Factor I	Factor II
A1258/89	6.55	7.00	12.00	20.00	6.50	64.00	12.00	3.0	6.5	6.6	6.0	8.0	2.78609	1.85037
A1273/89	6.10	6.90	16.00	-	-	11.00	-	2.5	6.1	6.1	6.5	7.3	-0.61110	-0.01631
A1281/89	3.90	4.55	18.00	27.00	4.50	7.20	-	2.0	3.8	4.0	4.1	5.0	1.02674	-1.24197
A1286/89	6.10	6.45	26.00	-	-	4.20	-	2.0	6.0	6.2	6.0	6.9	-0.66282	0.37684
A1289/89 *	6.55	7.40	14.00	20.00	6.50	64.00	-	3.0	6.5	6.6	6.8	8.0	-	-
A1298/89	6.25	5.30	16.00	-	-	9.70	-	2.5	6.1	6.4	4.0	6.6	-0.65506	-0.38809
A1301/89	4.70	6.25	16.00	-	-	10.00	-	2.0	4.5	4.9	5.0	7.5	-0.61402	-0.62486
A1303/89	3.80	6.75	15.00	-	-	5.60	-	4.0	3.4	4.2	6.4	7.1	-0.63467	-0.85070
A1310/89	8.60	6.60	24.00	-	-	10.90	-	2.0	8.4	8.8	5.7	7.5	-0.63817	1.15585
A1313/89 *	5.85	4.85	16.00	-	-	-	-	2.0	5.5	6.2	2.9	6.8	-	-
A1314/89 *	3.65	5.85	8.00	-	-	-	-	2.5	3.6	3.7	4.9	6.8	-	-
A1318/89	6.50	6.80	18.00	-	-	13.00	-	4.0	6.1	6.9	6.0	7.6	-0.59025	0.27904
A1322/89	5.70	5.10	16.00	-	-	15.00	-	2.0	5.3	6.1	4.2	6.0	-0.60230	-0.42678
A1323/89	10.10	9.10	24.00	-	-	12.80	-	4.0	9.8	10.4	8.2	10.0	-0.58761	2.20933
A1324/89	9.15	7.25	20.00	-	-	15.50	-	4.0	8.9	9.4	6.6	7.9	-0.59129	1.28742
A1326/89	6.10	5.20	24.00	-	-	10.20	-	2.5	5.7	6.5	4.5	5.9	-0.62577	0.16991
A1329/89	7.00	5.90	20.00	-	-	6.40	-	2.5	6.8	7.2	5.8	6.0	-0.67709	0.15380
A1334/89 *	5.15	0.00	6.10	10.00	3.00	-	76.50	2.0	5.1	5.2	0.0	0.0	-	-
A1336a/89	8.10	7.20	14.00	-	-	18.70	-	2.0	7.6	8.6	6.7	7.7	-0.55769	0.66438
A1336b/89	7.55	8.55	16.00	-	-	11.80	-	2.0	7.5	7.6	8.0	9.1	-0.58879	0.83430
A1346/89	4.55	7.75	14.00	-	-	26.00	-	2.5	4.0	5.1	7.0	8.5	-0.41351	0.05118
A1347/89	5.60	7.00	12.00	-	-	33.00	-	2.0	4.2	7.0	7.0	7.0	-0.37506	0.26693
A1348/89	5.85	3.70	10.00	10.00	5.00	18.90	-	2.5	4.6	7.1	3.3	4.1	0.46345	-1.02964
A1349/89	6.05	8.50	18.00	-	-	30.00	-	2.0	5.0	7.1	8.5	8.5	-0.36456	1.02496
A1350/89	5.75	8.55	18.00	-	-	33.10	-	2.0	5.0	6.5	8.2	8.9	-0.31697	1.09857
A1357/89	6.10	9.50	-	-	-	39.10	-	2.5	6.1	6.1	9.0	10.0	-0.29719	0.32198
A1359/89	7.50	4.30	14.00	-	-	14.70	-	3.5	6.8	8.2	4.3	4.3	-0.65598	-0.22591
A1362/89	8.90	6.00	20.00	-	-	39.40	-	2.5	7.8	10.0	5.5	6.5	-0.34545	1.64595
A1363/89	9.00	6.55	22.00	-	-	37.20	-	2.5	8.5	9.5	6.4	6.7	-0.36267	1.90121

CLOVERDALE SITE (23BN2) - Class II Sherds - Dimensional Data

	Rim Thickness	Body Thickness	Rim Diameter	Body Diameter	Vertical Tangency	Rim Height	Body Height	Hardness	Range of Rim Thickness		Range of Body Thickness		Factor Scores	
Catalog Number	(mm)	(mm)	(cm)	(cm)	(cm)	(mm)	(cm)		(mm)	(mm)	(mm)	(mm)	Factor I	Factor II
A1364/89	6.65	6.45	20.00	-	-	34.40	-	3.0	5.6	7.7	5.8	7.1	-0.36022	1.07611
A1365/89	5.65	3.65	16.00	-	-	26.00	-	2.5	5.6	5.7	3.0	4.3	-0.50477	-0.35179
A1370/89	5.55	5.45	11.00	-	-	13.50	-	2.0	4.8	6.3	5.3	5.6	-0.62268	-0.71829
A1376/89	5.05	5.40	16.00	-	-	21.10	-	2.0	4.8	5.3	4.5	6.3	-0.51079	-0.35268
A1380/89	8.75	5.90	22.00	-	-	28.00	-	2.0	6.4	11.1	5.5	6.3	-0.46442	1.44359
A1381/89	6.65	8.45	14.00	-	-	24.00	-	2.5	6.4	6.9	7.5	9.4	-0.45666	0.77200
A1386/89	8.65	5.40	20.00	-	-	36.50	-	3.0	7.8	9.5	5.0	5.8	-0.39457	1.38646
A1388/89	5.80	6.90	26.00	-	-	20.00	-	2.0	5.6	6.0	5.8	8.0	-0.47324	0.83542
A1389/89	6.60	4.80	20.00	-	-	37.70	-	2.0	5.5	7.7	4.1	5.5	-0.35191	0.72745
A1390/89	4.60	6.95	18.00	-	-	12.30	-	2.0	4.0	5.2	6.8	7.1	-0.56694	-0.25070
A1395/89	6.65	-	19.00	-	-	31.60	-	2.5	5.8	7.5	-	-	-0.53031	-0.51757
A1397/89	8.15	9.15	18.00	-	-	38.70	-	2.5	8.0	8.3	7.1	11.2	-0.28446	1.98138
A1401/89	5.05	7.35	14.00	21.00	6.00	29.70	-	4.0	4.5	5.6	6.7	8.0	1.25232	0.06557
A1402/89	7.90	5.89	16.00	-	-	-	-	2.0	7.8	8.0	3.8	8.0	-0.77958	-0.00647
A1403/89	7.00	5.00	15.00	23.00	9.00	-	-	4.0	6.4	7.6	3.6	6.4	1.32439	-0.76899
A1404/89	5.50	4.35	12.00	17.00	5.75	-	14.00	2.5	4.2	6.8	3.5	5.2	2.02051	-0.83617
A1405/89	6.95	4.25	10.00	15.00	7.50	-	-	2.0	6.5	7.4	4.0	4.5	0.77041	-1.23930
A1406/89	5.75	5.70	14.00	-	-	-	-	2.0	5.0	6.5	4.6	6.8	-0.75575	-0.83676
A1407/89	7.10	7.10	13.00	25.00	9.00	17.20	23.00	3.0	6.6	7.6	9.2	5.0	3.87646	1.30777
A1408/89	5.25	5.10	15.00	24.00	9.00	34.30	19.00	2.5	3.8	6.7	3.8	6.4	3.62500	0.75318
A1409/89	6.50	4.10	25.00	39.00	9.50	12.50	-	2.5	6.4	6.6	2.4	5.8	2.11712	-0.04593
A1410/89	4.00	6.70	14.00	22.00	8.00	29.40	-	2.5	3.8	4.2	6.0	7.4	1.55685	-0.24619
A1412/89	5.95	9.50	12.00	16.00	4.50	9.60	-	2.0	5.5	6.4	9.2	9.8	0.65053	0.16977
A1554/89	5.10	5.40	14.00	-	-	-	-	2.0	4.8	5.4	4.3	6.5	-0.75095	-1.12406
A1555/89	6.30	6.10	20.00	38.00	12.50	-	19.00	2.0	5.2	7.4	4.2	8.0	4.29410	0.55635
A1696/89 *	4.65	4.85	14.00	20.00	3.50	-	11.00	2.0	4.5	4.8	4.5	5.2	-	-
A1702/89	5.85	4.90	11.00	-	-	17.40	-	2.0	5.4	6.3	4.1	5.7	-0.58878	-0.68952
A1893/89	5.45	6.15	12.00	-	-	23.10	-	2.0	5.2	5.7	6.0	6.3	-0.49302	-0.29778
A1943/89	5.20	6.45	14.00	-	-	17.90	-	2.0	5.0	5.4	5.2	7.7	-0.53744	-0.23711

CLOVERDALE SITE (23BN2) - Class II Sherds - Dimensional Data

	Rim Thickness	Body Thickness	Rim Diameter	Body Diameter	Vertical Tangency	Rim Height	Body Height	Hardness	Range of Rim Thickness		Range of Body Thickness		Factor Scores	
Catalog Number	(mm)	(mm)	(cm)	(cm)	(cm)	(mm)	(cm)		(mm)	(mm)	(mm)	(mm)	Factor I	Factor II
A1952/89 *	4.75	4.95	12.00	15.00	5.50	-	-	2.0	4.5	5.0	3.2	6.7	-	-
A1960/89	3.55	4.30	-	-	-	12.60	-	2.0	3.5	3,6	3.9	4.7	-0.65519	-2.36291
A1961/89	5.15	4.10	10.00	14.00	5.00	17.90	-	2.5	4.3	6.0	3.2	5.0	0.62682	-1.09746
A1964/89	5.95	7.10	16.00	23.00	10.00	27.70	-	4.0	5.7	6.2	4.6	9.6	1.82158	0.42441
A1965/89	3.95	5.50	-	-	-	11.70	-	2.0	3.5	4.4	3.7	7.3	-0.64630	-2.03077
A1966/89	6.65	9.40	18.00	-	-	26.30	-	2.0	6.2	7.1	8.7	10.1	-0.39541	1.36794
A1967/89	4.20	6.50	-	-	-	22.00	-	4.0	4.2	4.2	4.5	8.5	-0.51631	-1.37027
A1968/89	5.75	4.35	14.00	-	-	14.20	-	2.5	5.6	5.9	2.8	5.9	-0.63268	-0.75565
A1970/89	5.50	4.40	11.00	13.00	6.00	13.00	-	2.5	5.2	5.8	3.8	5.0	0.67288	-1.09307
A1971/89	6.15	43.45	16.00	26.00	10.00	22.50	-	2.5	5.8	6.5	6.4	80.5	1.89264	0.33762
A1972/89	6.05	7.35	-	-	-	13.00	-	4.0	5.9	6.2	6.0	8.7	-0.63247	-0.96600
A1973/89	5.75	6.05	20.00	30.75	8.50	30.80	-	2.5	5.5	6.0	6.0	6.1	1.97025	0.40597
A1974/89	4.95	5.40	16.00	-	-	26.60	-	2.0	4.7	5.2	4.3	6.5	-0.45233	-0.19417
A1980/89	8.80	9.35	22.00	-	-	53.30	-	3.0	8.6	9.0	9.1	9.6	-0.11808	2.95097
Count	157	156	152	50	50	141	7	157	157	157	156	156	146	146
Mean	6.162	6.274	16.675	19.905	6.175	18.176	24.929	2.411	5.728	6.602	5.237	7.311		
Deviation	1.573	3.335	7.499	6.662	2.382	11.564	23.145	0.632	1.518	1.745	1.678	6.119		
Median	5.850	6.000	16.000	20.000	5.625	13.500	19.000	2.000	5.600	6.200	5.000	6.800		

* Specimens not included in principle components analysis - not jar forms (n=11)

APPENDIX A.4.

CLOVERDALE SITE (23BN2) - Class II Sherds - Types

	NEBRASKA TYPES												STEED-KISKER TYPES		UND
	McVEY				BECKMAN				SWOBODA		DEBILKA		PV	S-K	
Catalog Number	Pl	PF	TD	RL	TD	PR	CM	Sm	TD	CM	Co	St	Pl	In	
A02179.255/89	x														
A0921/89	x														
A0922/89	x														
A0923/89	x														
A0924/89	x														
A0925/89												x			
A0926/89	x														
A0927/89	x														
A0928/89	x														
A0929/89				x											
A0930/89			x												
A0931/89	x														
A0932/89							x								
A0933/89	x														
A0934/89								x							
A0935/89											x				
A0936/89	x														
A0937/89	x														
A0938/89	x														
A0939/89	x														
A0940/89	x														
A0941/89	x														
A0942/89			x												
A0947a/89														x	
A0947b/89														x	
A0948/89														x	
A0950/89														x	
A0951/89														x	
A0953/89														x	
A0955/89														x	
a0956/89														x	
A0957/89														x	
A0958/89														x	
A0959/89														x	
A0960/89														x	
A0964/89														x	
A0965/89														x	
A0968/89														x	
A0969/89														x	
A0971/89														x	
A0973/89												x			
A0974/89														x	
A0975/89														x	
A0976/89													x		
A0977/89											x				
A0982/89													x		
A0983/89													x		

CLOVERDALE SITE (23BN2) - Class II Sherds - Types

	NEBRASKA TYPES												STEED-KISKER TYPES		UND
	McVEY				BECKMAN				SWOBODA		DEBILKA		PV	S-K	
Catalog Number	Pl	PF	TD	RL	TD	PR	CM	Sm	TD	CM	Co	St	Pl	In	
A0987/89				x											
A0989/89				x											
A0998/89													x		
A0999/89															x
A1015/89	x														
A1028/89											x				
A1029/89													x		
A1044/89													x		
A1049/89	·												x		
A1050/89													x		
A1051/89	x														
A1052/89													x		
A1053/89	x														
A1055/89	x														
A1058/89	x														
A1062/89	x														
A1063/89													x		
A1094/89														x	
A1183/89													x		
A1212/89													x		
A1213/89	x														
A1218/89													x		
A1219/89													x		
A1226/89				x											
A1229/89													x		
A1230/89													x		
A1234/89	x														
A1235/89	x														
A1237/89													x		
A1239/89	x														
A1240/89															x
A1247/89	x														
A1248/89	x														
A1249/89				x											
A1251/89	x														
A1255/89													x		
A1256/89													x		
A1257/89	x														
A1258/89	x														
A1273/89														x	
A1281/89														x	
A1286/89														x	
A1289/89														x	
A1298/89														x	
A1301/89														x	
A1303/89														x	
A1310/89														x	
A1313/89														x	
A1314/89												x			

CLOVERDALE SITE (23BN2) - Class II Sherds - Types

	NEBRASKA TYPES												STEED-KISKER TYPES		UND
	McVEY				BECKMAN				SWOBODA		DEBILKA		PV	S-K	
Catalog Number	Pl	PF	TD	RL	TD	PR	CM	Sm	TD	CM	Co	St	Pl	In	
A1318/89														x	
A1322/89														x	
A1323/89														x	
A1324/89														x	
A1326/89														x	
A1329/89														x	
A1334/89											x				
A1336a/89					x										
A1336b/89	x														
A1346/89	x														
A1347/89		x													
A1348/89						x									
A1349/89		x													
A1350/89		x													
A1357/89	x														
A1359/89	x														
A1362/89	x														
A1363/89						x									
A1364/89			x												
A1365/89	x														
A1370/89					x										
A1376/89			x												
A1380/89					x										
A1381/89	x														
A1386/89						x									
A1388/89					x										
A1389/89			x												
A1390/89	x														
A1395/89					x										
A1397/89					x										
A1401/89			x												
A1402/89			x												
A1403/89			x												
A1404/89	x														
A1405/89			x												
A1406/89					x										
A1407/89	x														
A1408/89					x										
A1409/89														x	
A1410/89	x														
A1412/89	x														
A1554/89	x														
A1555/89	x														
A1696/89											x				
A1702/89	x														
A1893/89										x					
A1943/89	x														
A1952/89											x				
A1960/89	x														

CLOVERDALE SITE (23BN2) - Class II Sherds - Types

	NEBRASKA TYPES												STEED-KISKER TYPES		UND
	McVEY				BECKMAN				SWOBODA		DEBILKA		PV	S-K	
Catalog Number	Pl	PF	TD	RL	TD	PR	CM	Sm	TD	CM	Co	St	Pl	In	
A1961/89	x														
A1964/89	x														
A1965/89	x														
A1966/89										x					
A1967/89	x														
A1968/89	x														
A1970/89				x											
A1971/89	x														
A1972/89	x														
A1973/89									x						
A1974/89	x														
A1980/89			x												
Counts	56	3	10	6	8	3	1	1	1	2	6	3	19	36	2
Type Total	75				13				3		9				
Percentages	36%	2%	6%	4%	5%	2%	1%	1%	1%	1%	4%	2%	12%	23%	1%
Type Percentage	48%				8%				2%		6%		12%	23%	1%

Nebraska Types - n=100 or 63.7% Steed-Kisker Types - n=55 or 35% Undetermined - n=2 or 1.3%

KEY:
Pl-Plain; PF-Pinched Filet; TD-Tool Decorated; RL-Rolled Lip; PR-Pinched Rim; CM-Cord-Marked; Sm-Smoothed; Co-Constricted; St-Straight; PV Pl-Platte Valley Plain; S-K In-Steed-Kisker Incised; UND-Undetermined

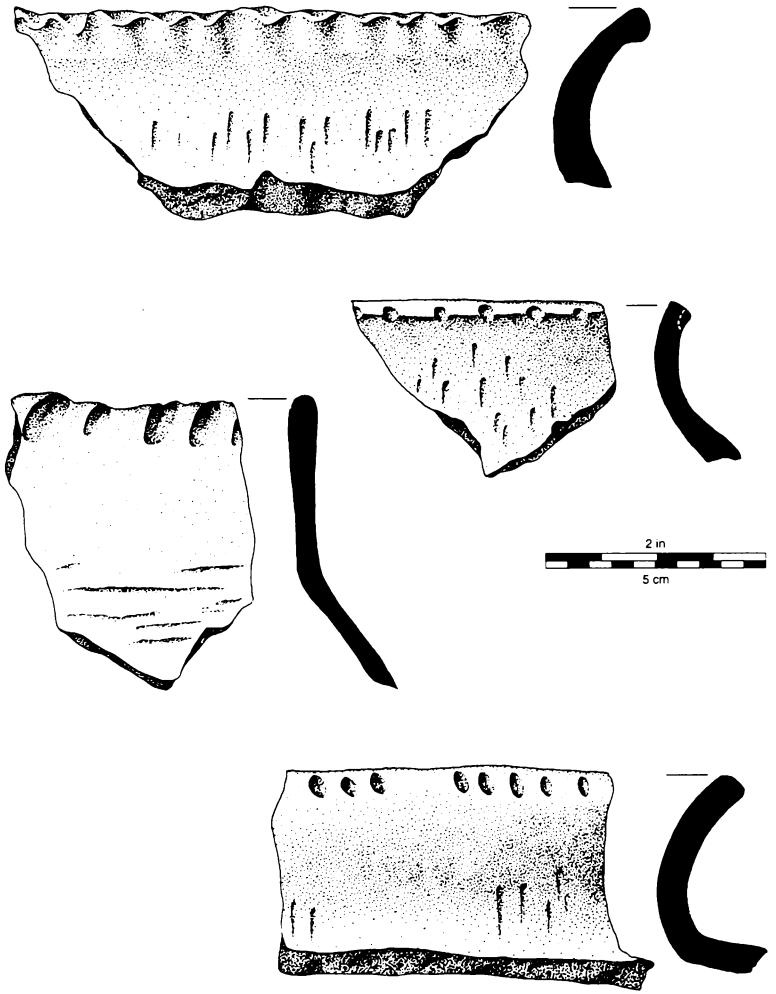

FIGURE A.1. Examples of McVey Ware from the Cloverdale Site

a. Pinched Fillet - A1350/89; b - d. Tool Decorated - b. A1376/86; c. A1389/89; d. A1364/89.

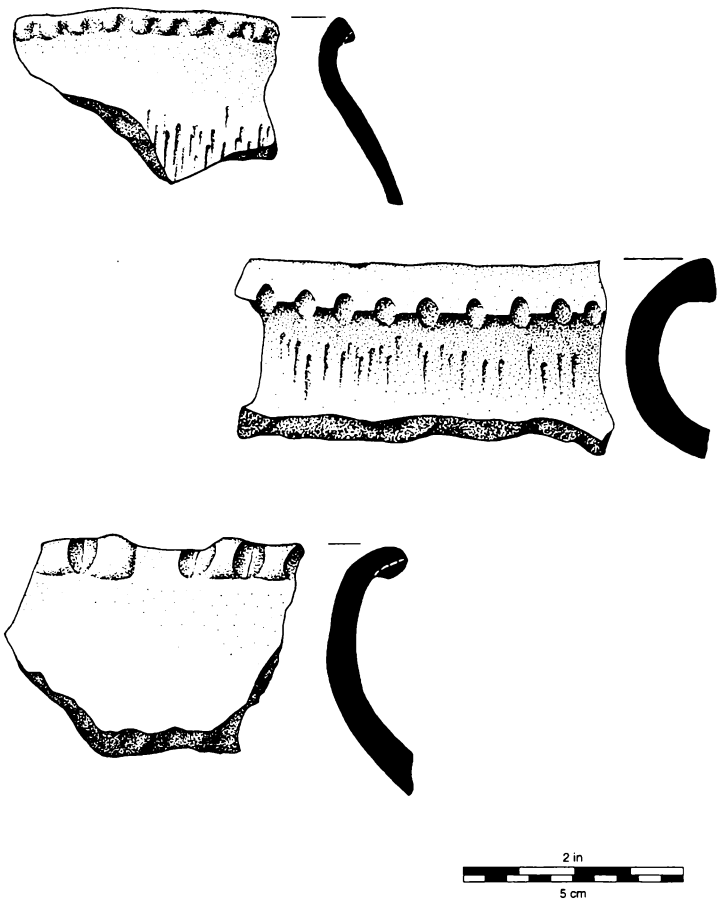

FIGURE A.2. Examples of Beckman Ware from the Cloverdale Site

Tool Decorated - a. A1370/89; b. A1380/86; c. A1395/89.

APPENDIX B.1.

MAJORS SITE (25NH2) - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
1-15		x			x		x			x
160-1		x			x		x		x	
1-28		x			x	x				x
155-4		x			x		x		x	
1-16		x			x	x				x
160-3		x			x		x		x	
1-35		x			x		x			x
S-1		x			x		x			x
155-2		x			x	x			x	
1-35		x			x		x			x
1-9		x			x		x		x	
1-33		x			x		x			x
1-11		x			x		x			x
4-2		x			x		x			x
161-1		x			x		x			x
1-31		x			x		x		x	
160-4		x			x		x			x
1-12		x			x		x			x
1-10		x			x		x			x
1-18		x			x		x			x
1-29		x			x		x			x
1-38		x			x		x			x
1-38		x			x		x			x
00-0		x		x			x			x
1-46		x		x			x		x	
1-13			x		x	x				x
2-5			x		x	x				x
1-26			x		x	x				x
1-14			x		x			x		x
1-8			x		x		x			x
1-34			x		x		x			x
1-17			x		x		x			x
155-3			x		x		x			x
1-19			x		x		x			x
Count	0	25	9	2	32	6	27	1	7	27
Sum			34		34			34		34
Percent	0%	74%	26%	6%	94%	18%	79%	3%	21%	79%
			100%		100%			100%		100%

APPENDIX B.2.

MAJORS SITE (25NH2) - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE			APPENDAGE		RIM TYPE		RIM ORIENTATION			RIM DECOR		BODY DECOR	
Catalog No	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Bowl	Undet	Present	Absent	Collar	Direct	Vertical	Flared	Inverted	Present	Absent	Present	Absent
22	x				x				x		x		x		x			x		x
1-21		x			x				x		x		x		x			x		x
88/2		x			x		x				x		x		x			x	x	
1/2		x			x		x			x			x		x			x		x
1-6		x			x				x	x			x		x			x		x
53/4		x			x		x				x		x		x			x		x
52/7		x			x		x				x		x		x			x		x
1-20		x			x		x				x		x	x				x		x
4/1		x			x		x			x			x		x			x		x
1/5		x			x		x				x		x		x			x		x
1/4		x		x			x			x			x		x			x		x
155/1		x		x					x		x	x		x				x		x
1/3		x		x			x				x		x		x			x		x
52/5		x				x		x			x		x			x		x		x
88		x				x	x			x			x		x			x	x	
1-7		x				x	x				x		x	x				x	x	
134		x				x		x			x		x			x		x		x
1/14		x				x	x				x		x		x			x	x	
59-3		x				x	x			x			x	x				x	x	
Count	1	18	0	3	10	6	13	2	4	6	13	1	18	4	13	2	0	19	5	14
Sum			19			19			19		19		19			19		19		19
Percent	5.3%	94.7%	0.0%	15.8%	52.6%	31.6%	68.4%	10.5%	21.1%	31.6%	68.4%	5.3%	94.7%	21.1%	68.4%	10.5%	0.0%	100.0%	26.3%	73.7%
			100%			100%			100%		100%		100%			100%		100%		100%

KEY: Decor = Decoration; Cd-Mk = Cordmarked; Smo = Smoothed; Pol = Polished; Glob = Globular; Undet = Undetermined Jar; Collar = Collared.

APPENDIX B.3.

MAJORS SITE (25NH2) - Class II Sherds - Dimensional Data

	Rim Thickness	Body Thickness	Rim Diameter	Body Diameter	Vertical Tangency	Rim Height	Body Height	Hardness		Range of Rim Thickness		Range of Body Thickness	
Catalog Number	(mm)	(mm)	(cm)	(cm)	(cm)	(mm)	(cm)			(mm)	(mm)	(mm)	(mm)
22	4.80	3.25	9.00	-	-	19.30	-	2.0		4.80	4.80	3.00	3.50
1-21	6.00	-	18.00	-	-	17.90	-	2.0		5.50	6.50	0.00	0.00
88/2	5.50	5.85	12.00	-	-	14.70	-	2.0		5.50	5.50	3.80	7.90
1/2	6.85	5.65	18.00	-	-	21.70	-	2.0		6.20	7.50	5.30	6.00
1-6	5.55	6.45	18.00	-	-	17.50	-	2.5		4.80	6.30	6.30	6.60
53/4	6.35	6.00	18.00	-	-	27.70	-	2.5		6.00	6.70	4.90	7.10
52/7	4.40	5.45	-	-	-	31.40	-	2.5		4.40	4.40	5.00	5.90
1-20	6.10	4.75	16.00	-	-	23.00	-	2.5		6.00	6.20	4.50	5.00
4/1	5.30	5.55	16.00	-	-	15.50	-	2.5		5.20	5.40	5.00	6.10
1/5	5.00	4.50	14.00	23.00	11.00	19.10	-	2.5		4.80	5.20	4.20	4.80
1/4	5.70	4.95	13.00	-	-	16.00	-	2.0		5.70	5.70	3.80	6.10
155/1	7.55	3.90	16.00	-	-	25.00	-	2.5		7.00	8.10	3.90	3.90
1/3	6.65	5.95	20.00	-	-	20.00	-	2.5		5.70	7.60	5.30	6.60
52/2	6.60	9.90	-	-	-	-	-	2.5		5.40	7.80	8.30	11.50
88	4.80	5.00	16.00	-	-	20.80	-	4.0		4.80	4.80	4.50	5.50
1-7	5.25	5.50	16.00	-	-	20.00	-	2.5		5.00	5.50	5.10	5.90
134	6.70	6.05	14.00	-	-	-	-	2.5		6.20	7.20	4.50	7.60
1/14	6.45	4.70	16.00	-	-	20.00	-	2.5		6.30	6.60	3.90	5.50
59-3	4.55	4.55	16.00	36.00	14.00	21.20	-	2.5		4.00	5.10	3.50	5.60
Count	19	18	17	2	2	17	0	19		19	19	19	19
Mean	5.795	5.442	15.647	29.500	12.500	20.635	0.000			5.437	6.153	4.463	5.847
Deviation	0.884	1.380	2.644	9.192	2.121	4.313	0.000			0.751	1.119	1.585	2.207
Median	5.700	5.475	16.000	29.500	12.500	20.000	0.000			5.500	6.200	4.500	5.900

APPENDIX C.1

PATTERSON SITE (25SY31) HOUSE 3 - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
P94-048014	x				x		x			x
P94-158125			x		x		x			x
P94-158111		x			x		x		x	
P94-038005		x			x		x			x
P94-020039		x			x		x		x	
P94-069006			x		x		x			x
P94-007015		x			x		x			x
P94-190002		x			x		x			x
P94-077011	x				x		x			x
P94-158119	x				x		x			x
P94-065006		x			x		x			x
P94-158112		x			x		x			x
P94-022008	x				x		x			x
P94-162004	x				x		x			x
P94-158118		x			x		x			x
P94-062009		x			x		x			x
P94-020035		x			x		x			x
P94-130013		x			x		x			x
P94-009004			x		x		x			x
P94-032010	x				x		x			x
P94-129297	x				x		x			x
P94-112015	x				x		x			x
P94-113016	x				x		x			x
P94-062008		x			x		x			x
P94-048015		x			x		x			x
P94-106005		x			x		x			x
P94-147365		x			x		x			x
P94-084015		x			x		x			x
P94-185008		x			x		x			x
P94-184024		x			x		x			x
P94-072016		x			x		x			x
P94-184026		x			x		x			x
P94-197012		x			x		x			x
P94-113015		x		x			x		x	
P94-069007	x			x			x		x	
P94-129296		x		x			x		x	
P94-147350			x	x			x			x
P94-160203			x		x		x			x

PATTERSON SITE (25SY31) HOUSE 3 - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
P94-110035			x		x		x			x
P94-007016			x		x		x			x
P94-147353			x		x		x			x
P94-144011			x		x		x			x
P94-127010			x		x		x			x
P94-161050			x		x		x			x
P94-031015			x		x		x			x
P94-158117			x		x		x			x
P94-129UNK			x		x		x			x
P94-110137			x		x		x			x
P94-082019		x			x		x			x
P94-186001		x			x		x			x
P94-190005		x			x		x			x
P94-177005		x			x		x			x
P94-199009		x			x		x			x
P94-177007		x		x			x		x	
P94-179002	x				x		x			x
P94-167006	x				x		x			x
P94-101014			x		x		x			x
P94-136023		x			x		x			x
P94-124139		x			x		x			x
P94-128482		x			x		x		x	
P94-129401		x			x		x			x
P94-160204	x				x		x			x
P94-020008		x			x		x			x
P94-110033	x				x		x			x
P94-147352		x			x	x				x
P94-158121	x				x		x			x
P94-099025		x			x		x			x
P94-160206		x			x		x			x
P94-161051		x			x		x			x
P94-102001		x			x		x			x
P94-135005		x			x		x			x
P94-099023		x			x		x			x
P94-018004		x			x		x			x
P94-059006	x				x		x			x
P94-023011		x			x		x			x
P94-061001		x			x		x			x
P94-129302	x				x		x			x

PATTERSON SITE (25SY31) HOUSE 3 - Class I Sherds - Attribute Data

	TEMPER			RIM TYPE		SURFACE			DECORATION	
Catalog Number	None	Grit	Shell	Collar	Direct	Cd-Mk	Smo	Pol	Present	Absent
P94-044077		x			x		x			x
P94-158115		x			x		x			x
P94-158131		x			x		x			x
P94-147351		x			x		x			x
P94-UNK#2		x			x		x			x
P94-160196		x			x		x			x
P94-147358		x			x		x			x
P94-158120		x			x		x			x
P94-180006		x			x	x				x
P94-129469		x			x		x			x
P94-033007		x			x		x			x
P94-160201		x			x		x			x
P94-019001		x			x		x			x
P94-UNK#1		x			x		x			x
P94-084001		x			x		x			x
P94-044009	x				x		x			x
P94-099024		x			x		x			x
P94-136026		x			x		x			x
Count	18	61	16	5	90	2	93	0	7	88
Sum			95		95			95		95
Percent	19%	64%	17%	5%	95%	2%	98%	0%	7%	93%
			100%		100%			100%		100%

APPENDIX C.2

PATTERSON SITE (25SY31) HOUSE 3 - Class II Sherds - Attribute Data

	TEMPER			SURFACE			SHAPE			APPENDAGE		RIM TYPE		RIM ORIENTATION			RIM DECOR		BODY DECOR	
Catalog Number	Grit	Shell	None	Cd-Mk	Smo	Polished	Glob	Bowl	Undet	Present	Absent	Collar	Direct	Vertical	Flared	Inverted	Present	Absent	Present	Absent
94129059		x				x	x			x			x		x			x		x
94158276	x					x	x			x			x		x			x		x
94158107	x	x			x		x			x			x		x			x		x
94067002	x			x			x				x	x			x		x			x
94-201-035			x		x		x				x		x		x			x		x
94005002		x		x			x				x		x	x			x			x
094-183-002	x			x					x		x	x		x			x			x
94062007	x				x		x				x		x		x			x		x
Count	5	3	1	3	3	2	7	0	1	3	5	2	6	2	6	0	3	5	0	8
Sum			9			8			8		8		8			8		8		8
Percent	55.6%	33.3%	11.1%	37.5%	37.5%	25.0%	87.5%	0.0%	12.5%	37.5%	62.5%	25.0%	75.0%	25.0%	75.0%	0.0%	37.5%	62.5%	0.0%	100.0%
			100%			100%			100%		100%		100%			100%		100%		100%

KEY: Decor = Decoration; Cd-Mk = Cordmarked; Smo = Smoothed; Pol = Polished; Glob = Globular; Undet = Undetermined Jar; Collar = Collared.

APPENDIX C.3

PATTERSON SITE (25SY31) HOUSE 3 - Class II Sherds - Dimensional Data

	Rim Thickness	Body Thickness	Rim Diameter	Body Diameter	Vertical Tangency	Rim Height	Body Height	Hardness		Range of Rim Thickness		Range of Body Thickness	
Catalog Number	(mm)	(mm)	(cm)	(cm)	(cm)	(mm)	(cm)			(mm)	(mm)	(mm)	(mm)
94129059	7.50	4.65	14.00	26.00	10.00	11.70	-	2.5		7.50	7.50	3.40	5.90
94158276	5.20	5.20	10.00	-	-	18.00	-	4.0		4.80	5.60	3.70	6.70
94158107	5.25	4.50	10.00	-	-	17.30	-	4.0		5.20	5.30	3.80	5.20
94067002	7.35	6.25	18.00	-	-	34.90	-	2.5		6.00	8.70	4.50	8.00
94-201-035	5.95	6.65	8.00	11.00	4.00	11.30	-	2.5		6.00	7.50	4.40	8.90
94005002	4.95	6.05	16.00	30.00	12.00	32.60	-	2.5		3.60	6.30	4.60	7.50
094-183-002	9.05	8.00	20.00	-	-	-	-	2.0		7.40	10.70	8.00	8.00
94062007	7.30	6.80	14.00	-	-	17.20	-	2.5		7.00	7.60	6.80	6.80
Count	8	8	8	3	3	7	0	8		8	8	8	8
Mean	6.569	6.013	13.750	22.333	8.667	20.429	0.000			5.938	7.400	4.900	7.125
Standard Deviation	1.453	1.186	4.200	10.017	4.163	9.515	0.000			1.364	1.753	1.631	1.214
Median	6.625	6.150	14.000	26.000	10.000	17.300	0.000			6.000	7.500	4.450	7.150